Executive Summary

The Polio Eradication Initiative (PEI) of the United States Agency for International Development (USAID) saw tremendous progress in 2000, its fifth year of operation. Strong commitment, increased funding, accelerated eradication activities, and targeted supplemental immunization strategies made 2000 a successful year for the Initiative.

PEI is a vital part of the global campaign to eradicate poliomyelitis in a manner that also improves routine immunization and disease control systems. With the support of the U.S. Congress, USAID has provided more than $134 million in funding for the Initiative since its April 1996 launch. As one of the leading bilateral donors in the global campaign, USAID plays a central role in rallying the support of host country governments and other contributors. USAID is at the forefront of efforts to promote a longer-term legacy from investments in polio eradication. At all levels, USAID is making a difference.

A child receives polio drops in India.

In September 2000, at a Global Polio Partners' Summit at the United Nations in New York, the World Health Organization (WHO) announced it had revised its target date for interrupting virus transmission from 2000 to 2002. This change reflects the massive challenge of tracking down the virus under extremely difficult conditions. Achieving a polio-free world as quickly and effectively as possible is now the program focus, with the goal of attaining global certification in 2005. USAID continues to support all efforts to realize this goal.

The global campaign is considered the most successful public-private partnership and largest public health initiative in history. It has generated additional health partnerships that are targeting important children's immunization and health issues. Rotary International began the collaborative polio eradication campaign and remains a leading partner. The program now includes an impressive list of "Polio Partners," including host country governments, Rotary International, WHO, the U.S. Centers for Disease Control and Prevention (CDC), USAID, the United Nations Children's Fund (UNICEF), the World Bank, other bilateral donor agencies, Aventis Pasteur, De Beers, private voluntary organizations (PVOs), nongovernmental organizations (NGOs), the United Nations Foundation, and the Bill and Melinda Gates Foundation. Since 1996, the Polio Partners have implemented a proven collaborative strategy to break the chains of wild poliovirus transmission and eradicate polio. The strategy builds on lessons learned from the success of polio eradication in the Americas, including the importance of working with community organizations and of using indicators to evaluate program effectiveness.

Interagency coordinating committees (ICCs) have proved to be an effective means for coordination and technical review of polio activities at the international, regional, national, and subnational levels. ICCs develop work plans and budgets based on epidemiologically sound strategies. The ICCs identify necessary country policies and resources and work to resolve problems.

The status of polio eradication is monitored through WHO's six geographic regions, each of which must individually certify its "polio-free" status. A country is polio-free when the wild poliovirus ceases to circulate and no virologically confirmed cases of polio are found. For a WHO region to be certified as polio-free, all countries in the region must meet strict criteria for three years, including:

- Absence of confirmed polio cases and wild poliovirus
- Presence of an adequate surveillance system
- On-site evaluation by a national certification committee (NCC)
- Establishment of appropriate measures to handle importations

"Our race to reach the last child is a race against time. If we do not seize the chance now, the virus will regain its grip and the opportunity will elude us forever."

Kofi Annan
UN Secretary-General
Global Polio Partners 2000 Summit

Each region must also achieve containment of all existing sources of poliovirus to protect against accidental reintroduction of the virus into the population.

This report to Congress presents a look at 2000 activities, regional progress toward the eradication goal, and remaining challenges.

Intensifying Activities to Achieve Eradication

"Every Child Counts," the slogan adopted by WHO in 1999 for the final push for polio eradication, emphasizes that all children must be vaccinated. Immunization campaigns must be of the highest quality. Many must include a house-to-house or child-to-child component to immunize all children, including those living in slums, remote areas, and other high-risk environments. These activities involve more health workers and volunteers, greater costs, and larger amounts of oral polio vaccine (OPV) than ever before. This is the most expensive phase, but house-to-house or child-to-child immunizations are needed to reach all missed children. All chains of wild poliovirus transmission must be interrupted, and all children under five must be immunized against polio. Surveillance systems must be strengthened sufficiently to detect all remaining polio cases, especially in "silent areas" where reporting systems are lacking or inadequate. A period of vigilant surveillance must be maintained to ensure that the last traces of the disease are eradicated.

Eleven cases of vaccine-derived polio in the Dominican Republic and one in Haiti were a wake-up call for governments about the importance of maintaining routine immunization and accelerating research on shedding (the release of poliovirus from an infected person's intestine back into the environment) and vaccine virus transmission. This research will guide future decisions on how and when to stop polio immunizations. Containment of laboratory specimens that may hold the poliovirus is only beginning and will require more intensive efforts, especially in developed countries, where there are more laboratories and research systems than in developing countries.

2000 Achievements

Last year's achievements were nothing short of remarkable, particularly in countries with weak health systems. While polio eradication was not achieved, the worldwide commitment to eradication continued. The chains of poliovirus transmission are being broken, and the number of cases of wild poliovirus in circulation is declining rapidly. When global certification is achieved and immunization is no longer needed, WHO estimates that the United States government will save an estimated $230 million per year in vaccine costs alone; global savings could equal $1.5 billion per year. USAID funding and technical assistance have had a significant impact. Most USAID resources directly support country-level programs, while the rest support regional or global activities.[1]

A boy in India stands by a poster promoting National Immunization Days.

[1] Statistics cited in this report, unless otherwise noted, are courtesy of the World Health Organization and the U.S. Centers for Disease Control and Prevention.

Global Highlights

- Since the global eradication program began more than a decade ago, the number of polio cases has declined significantly, from an estimated 350,000 cases in 1988, to 7,141 confirmed cases in 1999, to 2,849[1] confirmed cases in 2000. The wild poliovirus disappeared from many countries (see figure 1).

- Of the three strains of wild poliovirus—P1, P2, and P3—there have been no reports of P2 cases anywhere in the world since 1999.

- WHO's Western Pacific Region was certified polio-free in October 2000. This is the second WHO region to be certified polio-free, after the Americas in 1994. With no new polio cases in two years, the European Region is next in line for polio-free status.

- The World Health Assembly unanimously passed a resolution to accelerate activities. The "Strategic Plan 2001-2005" was unveiled at the Polio Partners' September 2000 Summit.

Remaining Polio-Endemic Countries

- Widely endemic on five continents in 1988, polio is now concentrated in parts of sub-Saharan Africa and the Indian subcontinent. The number of polio-endemic countries has fallen from 125 to about 20 countries.

- Of the 20 countries with ongoing wild poliovirus transmission, 10 are global priority countries and the focus of the final phase of polio eradication. Immunization activities are accelerating in Bangladesh, India, Pakistan, Ethiopia, and Nigeria, and war-torn Afghanistan, Angola, the Democratic Republic of (DR) Congo, Somalia, and Sudan.

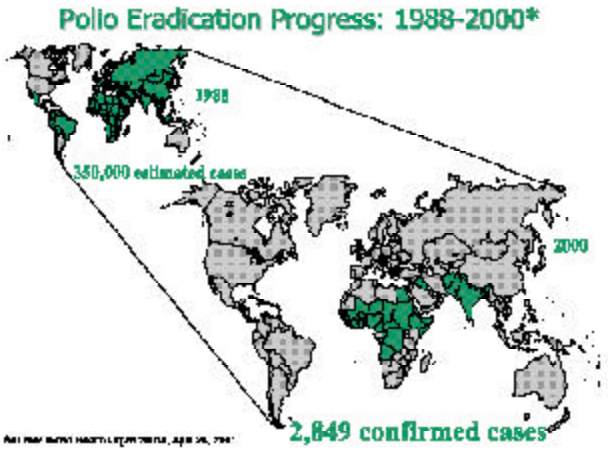


Figure 1

[1] As of April 24, 2001

Supplemental Immunization Activities

- In the past six years, almost 2 billion children under the age of five were immunized during National and Sub-National Immunization Days (NIDs/SNIDs). In 2000, 550 million children in 82 countries were immunized against polio in 280 NIDs/SNIDs and post-NIDs/SNIDs "mop-up" activities that administer additional OPV doses and search for AFP cases in highly endemic areas. Where feasible, USAID supported vitamin A supplementation and measles vaccinations in NIDs and Expanded Program on Immunization (EPI) activities. In 2000, WHO data showed that vitamin A distribution in conjunction with NIDS took place in more than 50 countries, reaching millions of children.

- A house-to-house and child-to-child immunization strategy was added during NIDs and SNIDs. "Grab," or convenience, surveys, in which health staff question children and caretakers at random during NIDs to see if children have been immunized, were also instituted. Many children were found to be "zero-dose"—i.e., children who had never been immunized.

- Two rounds of synchronized NIDs were held in 17 countries in Africa—the largest public health event ever in the continent! The NIDs targeted 70 million children but reached 76 million. In the DR Congo, the UN Secretary-General Kofi Annan called for "Days of Tranquility" to ensure that children in rebel-held areas could be

immunized in SNIDs in October and November 2000. USAID, the largest donor to polio eradication in the DR Congo, was a major participant in the negotiations for the Days of Tranquility.

- Since 1988, tens of thousands of public health workers have been trained to investigate cases of paralysis and manage immunization programs. Millions of volunteers have been trained to deliver OPV and vitamin A.

- Acute flaccid paralysis (AFP) surveillance is underway in all polio-endemic countries. This disease tracking system detects, reports, and responds to all potential AFP cases (a signal condition for polio) to track down and eliminate pockets of potential transmission. There have been major improvements in surveillance and case reporting, especially in South Asia, where USAID funding has made a critical difference.

- Of the 149 laboratories in the WHO Global Polio Laboratory Network (LABNET), 128 received full or provisional accreditation in 2000. Maintaining and extending the quality of laboratory practice and performance emerged as priority activities. USAID is the largest bilateral donor to the laboratory network.

- UNICEF provided more than 1.3 billion doses of OPV for use in more than 50 countries.

Partnerships

- Under the U.S.-Japan Common Agenda for Cooperation in a Global Perspective, USAID and the Government of Japan are working together on behalf of the Initiative. Japan Overseas Cooperation Volunteers (JOCV) and the U.S. Peace Corps are now working on community-level AFP surveillance in many countries.

- NGOs that belong to CORE, a network of 36 organizations working on USAID health and nutrition projects, established programs in the most inaccessible areas of India, Bangladesh, Nepal, Angola, and Uganda. One NGO identified 2,000 zero-dose children in the slums of Calcutta. Close ties with communities are starting to pay off in increased identification of AFP cases.

- USAID child survival projects are helping to improve the quality of polio eradication in countries such as the DR Congo, Angola, Nigeria, Ghana, Mali, Bangladesh, and Egypt.

- The Voice of America/International Broadcasting Bureau (VOA/IBB) and WORLDNET Television expanded their coverage of polio activities. Since 1998, VOA/IBB's 17 language services have produced more than 1,100 VOA/IBB/WORLDNET news reports, stories, promotions, and public service announcements.

Challenges

In May 1999, the World Health Assembly agreed to accelerate polio eradication activities that are conducted in a way to strengthen routine immunization and disease control systems. By September 1999, all major endemic countries had adopted the accelerated strategy. Unfortunately, OPV shortages continued last year in some countries. The shortages stemmed from the rapid implementation of supplemental immunization activities, interruption of production at one vaccine manufacturer, and rescheduling of large orders. Increased financial resources and a more coordinated approach among WHO, UNICEF,

Children who have received OPV show their index fingers marked with gentian violet dye.

A mother brings her child to be vaccinated during NIDs in Uttar Pradesh, India.

and vaccine manufacturers are expected to improve the availability of sufficient vaccine.

Last year, poliovirus related to viral isolates from Angola was found in two countries—Cape Verde and Congo Brazzaville—highlighting the need to establish and maintain high routine immunization rates and coverage everywhere, even island nations.

Keeping countries focused on certification—not just completing three years of NIDs—is proving to be a great challenge in countries with competing health priorities and limited resources. Improving the quality and coverage of every planned immunization activity is essential to reaching children who are not yet immunized. WHO and UNICEF have intensified their collaboration in programmatic and fund-raising activities in pursuit of these goals.

Through its new Boost Immunization Initiative, USAID increased funding for immunization programs to address declining or static routine immunization rates in many countries, particularly in Africa. Although declines in routine immunization rates have slowed, much more needs to be done to achieve and sustain high coverage. Through the Global Alliance for Vaccines and Immunization (GAVI), USAID and other donors are building bridges from polio eradication to other health programs and encouraging all partners to do more in this arena. All partners need to build on the capacity developed through polio eradication to support other immunization and disease control efforts. USAID is working closely with WHO to develop a "transition" plan to establish specific goals in this area.

AFP surveillance is hard to implement where there are difficulties in terrain, communication, and transporting stool samples. An important lesson learned from South Asia is the need to limit the geographical coverage of each surveillance officer to a maximum of two districts to implement effective AFP surveillance. The surveillance officer's knowledge of the community is invaluable in planning NIDs.

The next years are critical. Greater commitment, resources, and funding from the international community are needed to eradicate polio. To reach all children under the age of five, many vaccination teams will be needed. In countries in conflict, reaching every child during NIDs is a major challenge. Surveillance is improving in Asia, but in Africa it still lags far behind global standards, and more surveillance officers and better surveillance systems will be needed. USAID is committed to accelerating activities and advocating with other organizations to continue the progress achieved to date.

USAID's Role

USAID is working with its Polio Partners to address these challenges. The Agency is promoting "Days of Tranquility" and "Corridors of Peace" to allow immunization activities to proceed in war-torn countries. With some countries reluctant to support more than three years of supplemental immunization activities, USAID is advocating for increased local government and private-sector resources and commitment. USAID funds are critical to support the planning, training, and research that precede mop-up activities and in maintaining high-caliber surveillance and laboratory networks. The Agency has an unwavering commitment to targeted and effective social mobilization and communication.

The campaign is approaching a major benchmark—certification in three of six regions. Funding gaps remain. WHO conservatively estimates that $1 billion are needed for country-level global eradication activities through 2005 and that for country programs alone, a shortfall of $400 million exists. However, many believe that the amount of funding required will be much higher. USAID will continue to work with its partners to advocate for funding with other donors and private-sector sources.

I. The USAID Polio Eradication Initiative

The USAID Polio Eradication Initiative (PEI) is a vital part of the global effort to eradicate polio. In 1988, the U.S. government joined with other member nations of the World Health Assembly to adopt a global resolution to eradicate polio by the year 2000 in the context of improving routine immunization and disease control programs. In September 2000, the World Health Organization (WHO) announced that it had revised the target date for interrupting virus transmission from 2000 to 2002. USAID is committed to reaching this goal and striving to ensure that poliovirus transmission is interrupted and global certification achieved as quickly as possible.

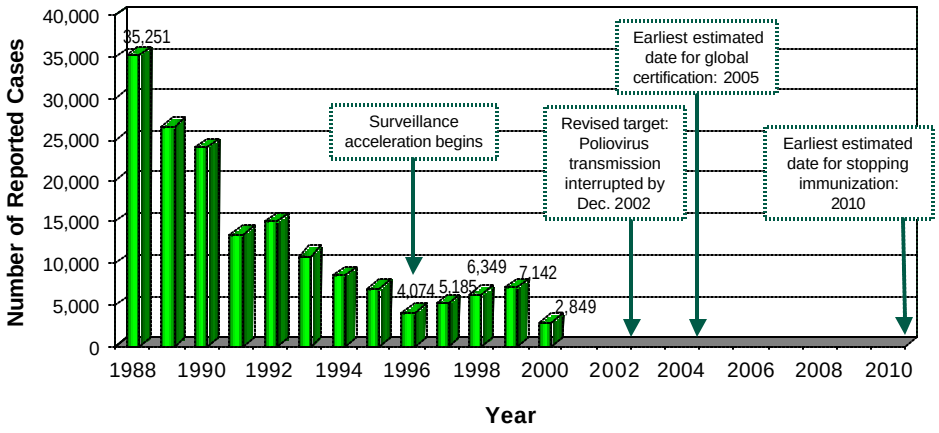
When the World Health Assemby resolved in 1988 to eradicate polio, 1,000 people a day contracted polio; today, the number is less than 30. An estimated three million people in developing countries are not paralyzed and can walk today because they were immunized against polio. USAID is committed to remaining vigilant in the polio eradication campaign.

Polio Partners

USAID and its Polio Partners—WHO, Rotary International, the United Nations Children's Fund (UNICEF), and the U.S. Centers for Disease Control and Prevention (CDC)—are working with host country governments in Africa, South Asia, the Near East, Europe, and Eurasia to promote and strengthen eradication efforts and improve links with other immunization services. In 2000, the public-private partnership included the United Nations Foundation, the Bill and Melinda Gates Foundation, the World Bank, Aventis Pasteur, De Beers, private voluntary organizations (PVOs), and nongovernmental organizations (NGOs). Other important polio partners are community groups, Voice of America/International Broadcasting Bureau (VOA/IBB), and bilateral donors including the governments of Australia, Canada, Denmark, Japan, Netherlands, Sweden, and the United Kingdom. Last year, the World Bank approved a $142 million credit to India for its Immunization Strengthening Project, which is attempting to eradicate polio and supporting activities against other vaccine-preventable diseases. The Netherlands gave $10 million to the Global Polio Eradication Initiative in May 2000.

Working together, the Polio Partners monitor routine immunization coverage, provide technical advice, and report on polio coverage and the Expanded Program on Immunization (EPI) at country, regional, and international meetings. USAID is also supporting research on the impact of polio eradication efforts on health systems and cost-effective ways to provide supplemental immunization.

Progress and Plan to Eradicate Polio



Source: World Health Organization, April 24, 2001

Figure 2

"It is important to stress that we are now entering a period of more—not less—intense eradication activities."

Dr. Gro Harlem Brundtland
WHO Director-General
May 2000

USAID provides technical assistance and financial support to a variety of polio eradication efforts. The Agency administers most of its support through grants to WHO and UNICEF. USAID also draws on the skills and experience of its technical staff and cooperating agencies. USAID is working with the U.S. Peace Corps, Japan International Cooperation Agency (JICA), Japan Overseas Cooperation Volunteers (JOCV), and others to leverage funding.

The Polio Partners' 2000 funding focused on developing and strengthening National Immunization Days (NIDs), mop-up campaigns, and surveillance systems, and on improving the laboratory network, social mobilization, and routine immunization systems from the national to local level. This year saw more emphasis on challenges in conflict countries. The Partners sponsored and participated in regional and national advocacy and planning meetings that were designed to strengthen national systems, share information, and motivate participants.

What is polio?

Polio is an infectious viral disease caused by the poliovirus. The virus is spread from person to person, usually through fecal contact. More than 95 percent of cases occur in children younger than five years of age. Transmission is most intense in densely populated areas with poor sanitation. In one in 200 cases, the virus kills the nerve cells that activate the muscles. The dead nerve cells cannot be replaced; the result is usually lifelong paralysis or, in some cases, death.

The PEI Strategy

The Agency's PEI strategy is designed to eradicate polio within the context of a strong and sustainable routine immunization and disease control system—an essential foundation for childhood immunization and basic primary health care services in the developing world.

Initially, USAID assistance for polio eradication focused on the Latin America/Caribbean (LAC) region, where the Agency was the major external donor. After the Americas were certified polio-free in 1994, the Agency shifted its geographic focus. In 1996, with the encouragement and support of Congress, USAID launched the PEI. USAID's PEI strategy incorporated many lessons learned from 10 years of support to the LAC region. These include the importance of collaborating closely with donor partners, establishing functioning interagency coordinating committees (ICCs) at the country and regional levels, using specific indicators to measure program success, and building partnerships to harness the enthusiasm and confidence of those involved in eradication efforts at all levels. Compared to the LAC eradication program, USAID recognized that there are more complex challenges for eradication in Africa and South Asia. In these regions, access to services is woefully inadequate and there are more marginalized populations, including large urban slums with millions of children. USAID is prepared to help meet these challenges.

A vaccinator enters a public bus to immunize children against polio in India.

The USAID PEI reflects a continuing political commitment to polio eradication. As the Initiative moves ahead, USAID and its Polio Partners are accelerating eradication activities. USAID funds are being used to improve acute flaccid paralysis (AFP) surveillance, accredit laboratories, and conduct research on the best ways to reach children with immunization campaigns, particularly those in hard-to-reach or hard-to-convince groups. USAID funds support NIDs through microplanning sessions and improvements in communication, advocacy, social mobilization, and the "cold chain" (temperature-controlled vaccine storage and delivery). In major global poliovirus reservoir areas, additional supplemental immunization activities are being conducted. True progress can be seen in the declining number of countries where the wild poliovirus continues to circulate.

The PEI Results Framework

The five strategic elements (figure 3) of the PEI Results Framework are:

Build Effective Partnerships

USAID supports partnerships at both the regional and national levels, particularly through ICCs to promote increased cooperation between donors and governments.

Strengthen Selected Systems

USAID supports activities to enhance national capacity to provide high-quality oral polio vaccine through routine and supplemental immunization systems. This includes improved training, supervision, logistics, planning, cold chain assessment and management, and program management for polio and other childhood illnesses. USAID has been instrumental in getting manufacturers to use the most effective dropper on all vaccine vials. This change reduces vaccine wastage for potential savings of millions of dollars.

USAID seeks to use the skills, infrastructure, staff, and laboratory capacity developed under polio eradication to strengthen routine immunization and health care systems. Where feasible, USAID supports vitamin A supplementation and measles vaccinations in NIDs and EPI activities. According to WHO, millions of children in more than 50 countries received vitamin A during NIDS activities in 2000.

Support Supplemental Immunization

USAID resources are used to plan and implement supplemental polio immunization campaigns, including targeted mop-up activities in high-risk areas. A series of checklists (see annex) was developed in 2000 to help local partners participate more effectively in NIDs, surveillance, and mopping-up activities. The USAID-funded Partnerships for Health Reform (PHR) Project conducted studies to determine cost-effective strategies for supplemental immunization.

Improve AFP Surveillance and Investigation

AFP surveillance pinpoints where and how the wild poliovirus is circulating. Stool samples are collected from each child who shows signs of AFP and are analyzed in the laboratory. If poliovirus is found, further laboratory tests are conducted to determine the exact strain and genetic sequencing of the virus so epidemiologists know where the virus originated. USAID funds are used to strengthen and expand existing surveillance systems to detect, report, and respond to outbreaks of polio and other infectious diseases at the community, facility, and laboratory levels. USAID also provides substantial support to LABNET, the WHO laboratory network for processing AFP stool samples for viral isolation.

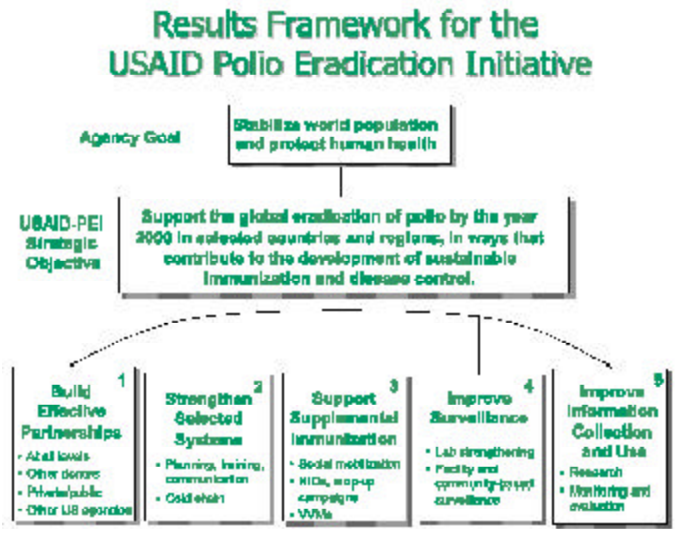


Figure 3

Improve Information Collection and Use

USAID supports data and information collection to monitor, evaluate, and continually improve the quality of PEI activities.

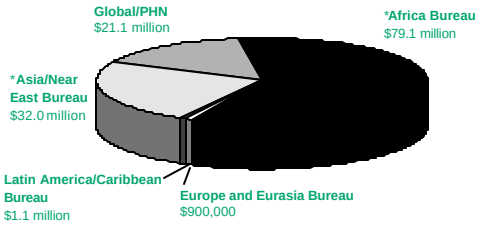
PEI Funding

In FY 1996, with the support of the U.S. Congress, USAID allocated $20 million for the PEI. In each fiscal year since then, an additional $25 million has been allocated for the Initiative, for a total of $120 million to date. USAID missions have provided an additional $14 million from bilateral child survival funds to support PEI and fill country-level gaps. With this funding, the Agency has been able to take a more active role in the worldwide polio eradication effort. USAID resources have focused on Africa, South Asia, the Near East, Europe, and Eurasia, where polio remains or was recently endemic.

India's Enterovirus Research Centre Is Designated Seventh Global Specialized Laboratory

In a major step forward, India's Enterovirus Research Centre in Mumbai was designated the seventh Global Specialized Laboratory for Polio last year, joining laboratories in Finland, France, Japan, the Netherlands, England, and the United States. This WHO-accredited laboratory is providing training to virologists and laboratory technicians of the polio network laboratories in India and other South Asian countries.

USAID Polio Eradication Initiative
Funds for FY 1996-2000



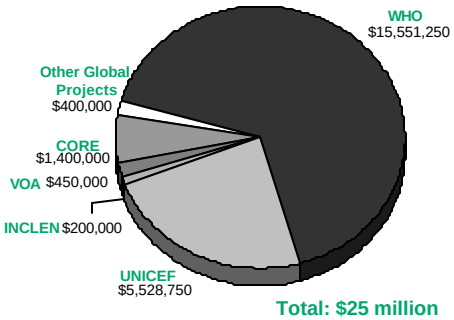
Total: $134.1 million

**Includes earmark and bilateral funds.*

Source: USAID, Center for Population, Health and Nutrition, 2001

Figure 4

Distribution of USAID PEI Funding by
Implementing Organization, FY 2000 ($000's)



Total: $25 million

** Rotary India receives a subgrant through UNICEF India*

Source: USAID

Figure 5

In FY 2000, USAID's $25 million PEI contribution was allocated as follows:

- $15.9 million to support NIDs and surveillance in the Africa region. Funds were used to help ministries of health plan and strategize for polio eradication activities. This included improving strategies for social mobilization, cold chain and logistics management, program planning, and evaluation. USAID funds were essential for establishing AFP surveillance in West and Central Africa.

- $5.1 million to support global, regional, and country eradication activities.

- $4 million to support NIDs and surveillance in the Asia and Near East region. The International Clinical Epidemiology Network (INCLEN) received limited support to continue post-NIDs assessments for program improvement in India. Rotary/India continued to receive funds for social mobilization and advocacy through a UNICEF subgrant.

Outstanding Progress in 2000

In 2000, there was tremendous progress at all levels of the polio eradication campaign. Through UNICEF and WHO, USAID continued to focus on strengthening the Initiative's key components in a strong push toward eradication (see figures 6a/6b). High on the agenda were conducting well-organized and planned NIDs, Sub-National Immunization Days (SNIDs), and targeted mop-up campaigns, and improving surveillance and the laboratory network. USAID also emphasized improving communication, social mobilization, the cold chain, and logistics, particularly in Africa and South East Asia. As SNIDs and mopping-up activities go door-to-door and child-to-child in war-torn areas, urban high-rise buildings and slums, and refugee camps, vaccinators are finding up to 40 percent more children who were missed in earlier rounds. This is increasing the number of children to immunize and the resources needed.

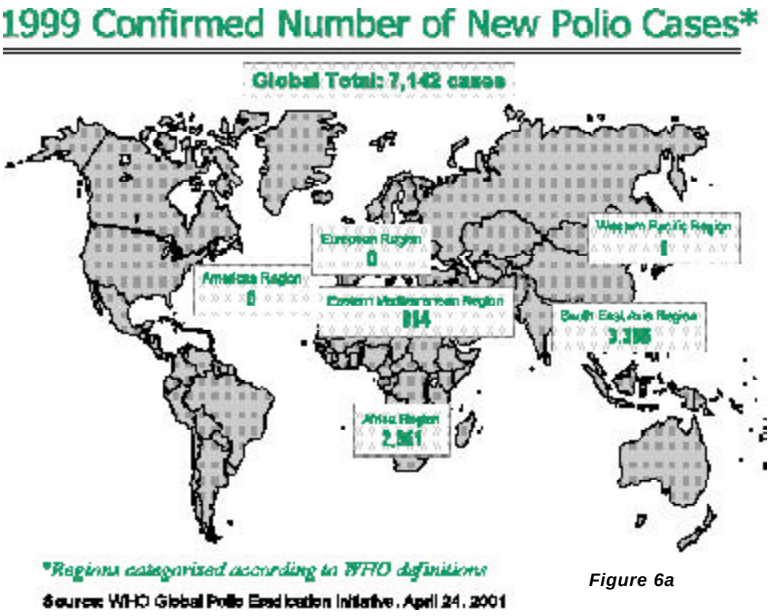


Figure 6a

A total of 161 NIDs were held worldwide in 2000, according to WHO. A record 550 million children received OPV through intensified immunization activities—NIDs, SNIDs, and mop-up campaigns—in 82 countries. In two rounds of synchronized NIDs in September and October in 17 West and Central African countries, 76 million children under the age of five—6 million more than originally estimated—were immunized, including two million "zero-dose" children. This was the largest public health event ever in Africa's history. Heads of state in seven African countries launched the NIDs in a strong showing of political commitment. In Benin, Central African Republic, Côte d'Ivoire, Ghana, Guinea, and Liberia, first ladies, ministers of health, and prime ministers helped launch the NIDs. Polio teams mapped cross-border regions to cover each village and set up immunization posts at border crossings. They also traveled to refugee camps to immunize children. Tens of thousands of volunteers and health workers participated in this monumental child health event.

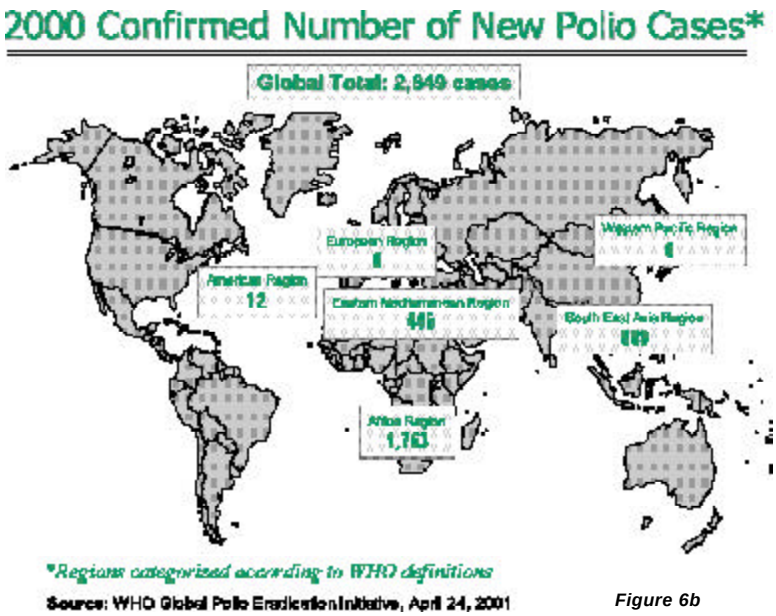


Figure 6b

In South Asia, India showed remarkable progress toward polio eradication. The number of laboratory-confirmed polio cases declined from 1,934 cases in 1998, to 1,126 cases in 1999, to only about 265 cases in 2000.[1] Each of the three wild poliovirus serotypes showed a dramatic decline in India between 1998 and 2000 (see figure 7). The Intensified Pulse Polio Immunization program held four national rounds of NIDs in January 2000 and two additional SNIDs in eight high-risk states in February and March. The house-to-house

[1]Based on data as of April 24, 2001.

WHO/Western Pacific Region Certified As Polio-Free

Photo by World Health Organization

Mum Chanty and brother

The WHO/Western Pacific Region (WPR) was certified polio-free in October 2000. No new cases of indigenous polio were detected in the 37 WPR countries in the last three years using certification-standard surveillance. WPR's last case was Mum Chanty, a 15-month-old Cambodian girl who was paralyzed in March 1997.

WPR is the second WHO region certified polio-free, after the Americas in 1994. The WHO/European Region has not had a single case of polio since November 1998 in Turkey and is on track to achieve polio-free status by 2002. WHO maintains the goal of all regions gaining certification status by 2005.

immunization strategy significantly increased the number of children immunized, from 149 million in January to 152 million in December. Several states in India emerged as polio-free with no evidence of poliovirus transmission despite a high-quality, sensitive AFP surveillance system. In all states except Uttar Pradesh, Bihar, West Bengal, and Delhi, mop-up campaigns were conducted in areas with evidence of poliovirus transmission. As intense polio transmission persisted in Uttar Pradesh and Bihar states, the Indian government focused its efforts on implementing extensive intensified supplemental immunizations. The government also strengthened systems, used district-level task forces to improve planning and monitoring of program activities, and increased the number of surveillance medical officers, while decreasing each officer's coverage to allow for more in-depth surveillance. Additional eradication strategies are focusing on urban areas, migrant and minority populations, improving social mobilization, and strengthening coordination across sectors.

The INCLEN-India November 2000 review of barriers to the Pulse Polio Immunization program found that almost 88 percent of all wild poliovirus cases in 2000 occurred in Uttar Pradesh and Bihar

Poliovirus Cases, 1998-2000, South East Asia Region

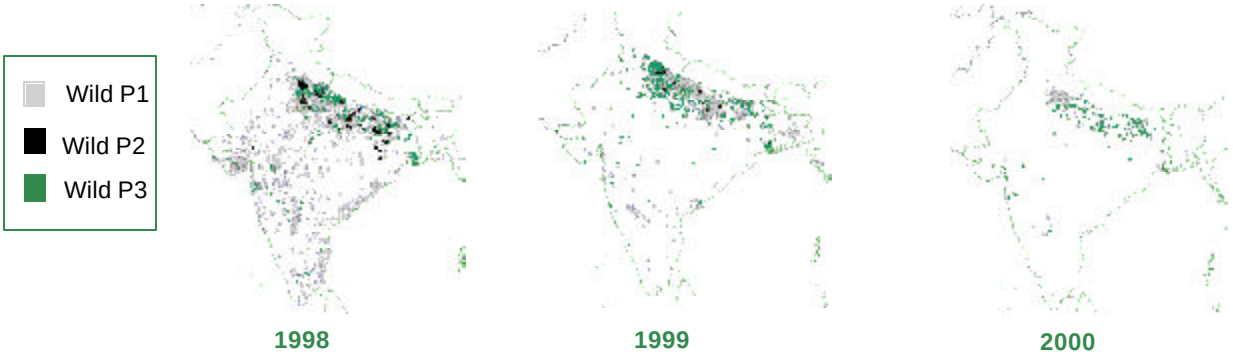


Figure 7

Source: WHO South East Asia Regional Office, March 12, 2001

states and occurred with greater intensity in certain pockets within these states. The report suggested that these areas might hold sizable numbers of unreached children. Health providers identified sociocultural beliefs as the most common barriers to immunization. INCLEN-India plans to conduct a qualitative study of prevalent barriers and constraints in a high-risk area of Uttar Pradesh and develop strategies to overcome them. At its May 2000 national workshop on polio eradication and routine immunization, the Indian Academy of Pediatrics promoted the involvement of its 12,000 members in mobilizing clients and keeping their clinics open during NIDs.

Last year's achievements are the direct result of the enormous commitment of financial and human resources, time, and dedication from governments, organizations, and untold numbers of individuals and volunteers. Partner coordination, early and detailed microplanning, good training, supervision, and extensive social mobilization are essential for high-quality NIDs and surveillance.

Much more remains to be done. Routine immunization levels need to be raised in Africa and in many countries of South Asia to ensure that all children are fully immunized by their first birthday and that populations are protected against reimportation of the poliovirus. Additional time is needed to develop robust AFP surveillance systems that can identify and track all remaining reservoirs of the wild poliovirus. Each laboratory within the WHO Global Polio Laboratory Network (LABNET) must be fully functional and able to identify and analyze all polio and AFP cases.

A health worker marks a house after a NIDs campaign.

Polio Infects Silently and Is Difficult to Recognize

While paralysis is the most visible sign of polio infection, less than 1 percent of all polio cases ever result in paralysis. Most cases either produce very mild flu-like symptoms or no symptoms at all. Polio can infect over 200 individuals silently before the first case of paralysis emerges. This is why one case of AFP is considered a polio outbreak.

Polio is particularly difficult to recognize in infants and young children who are not yet walking. In some countries, families may be reluctant to bring a paralyzed child to a health facility because they think nothing can be done or prefer to seek the advice of a traditional healer. They may not bring their children to a health facility for weeks or months after the onset of paralysis, if at all. Since stools must be collected within 14 days of the onset of paralysis to confirm poliovirus transmission, any delay in reporting is harmful to the eradication program.

Polio programs must also guard against a desire by some governments to suppress cases. Rather than being perceived as a failure of a country's polio program, an AFP case should rally an intensive targeted response to avoid undermining previous efforts. All countries are encouraged to maintain the integrity of their surveillance data and report any cases quickly.

II. Partnerships and Progress

Overview

The past year saw significant improvements in the quality of NIDs/SNIDs and mop-up activities and in detecting and reporting on suspected AFP cases. The geographic distribution of poliovirus continues to shrink. Further reducing the number of cases will require increased attention to reaching unimmunized children, accelerating and strengthening surveillance, and improving the laboratory network. To accomplish this, all partners will need to collaborate to achieve maximum impact and closely coordinate activities and resources.

The following section highlights 2000 accomplishments within the context of the PEI Results Framework's five objectives.

Build Effective Partnerships

In 2000, greater consensus and teamwork were in evidence among the Polio Partners and other agencies and organizations involved in the eradication effort. At the country level, more and more countries have functioning ICCs that bring together resources to implement polio eradication activities. The ICCs are also taking a more proactive approach by identifying areas to be strengthened and targeting resources to those areas.

Photo by Ellyn Odgen/USAID

Youth from the Scouting Association of Angola team up with UNICEF for social mobilization activities during NIDs in Lobito.

2000 Global Partners' Summit Draws Commitments to Polio-Free World

At the September 2000 Global Polio Partners' Summit, an unprecedented gathering at UN headquarters in New York, more than 350 individuals from polio-endemic countries, donor agencies, foundations, the private sector, UN agencies, NGOs, and humanitarian groups pledged their commitment to securing a polio-free world in 2005. The Summit, organized and directed by WHO, UNICEF, Rotary International, and the U.S. CDC, included UN Secretary-General Kofi Annan, philanthropist and businessman Ted Turner, WHO Director-General Gro Harlem Brundtland, UNICEF Executive Director Carol Bellamy, actress and UNICEF Special Representative Mia Farrow, Rotary International President Frank Devlyn, and U.S. Secretary of Health and Human Services Donna Shalala. Dr. Brundtland unveiled the Global Polio Eradication Strategic Plan 2001-2005, a detailed plan to certify the eradication of polio by 2005. She stated: "This is our roadmap. It takes us through to eradication of the poliovirus, to certification of a polio-free world. The final journey."

Within this collaborative effort, USAID has gained recognition as a strong technical leader and has been increasingly called on to provide technical expertise and facilitate collaborative activities. USAID staff took active roles in key international and regional meetings, international surveillance reviews, and monitoring and observational visits. Examples of these and other collaborative activities follow.

- USAID Regional Bureau and Mission staff participated in country and regional ICCs. USAID staff traveled to many priority countries. They monitored NIDs planning and implementation, surveillance, and cross-border activities, and provided rapid feedback, strategic guidance, and recommendations to fine-tune activities.

- Operation MECACAR Plus coordinated NIDs in the spring and mopping-up activities in autumn in the Middle East, Caucasus, and Central Asia Republic (MECACAR) countries of WHO's European and Eastern Mediterranean regions.

- To target cross-border virus transmission, India and Nepal, China and Myanmar, and Pakistan and Afghanistan are coordinating immunization activities at their shared borders. Interregional and intercountry coordination are critical to immunize children of itinerant families who cross borders and often miss scheduled NIDs.

- The CORE Group, a network of 36 US-based PVOs that work in USAID health and nutrition projects, is improving partnerships and increasing the effectiveness and efficiency of national polio eradication efforts in India, Bangladesh, Nepal, Angola, and Uganda. Enhanced microplanning, better coordination of polio eradication activities at local levels, strengthening national and regional immunization systems, and improving community mobilization beyond PVO project boundaries have been the immediate benefits of the CORE Group's participation. In Angola, for example, CORE trained interviewers and supervisors from the Ministry of Health and PVOs to conduct the first-ever coverage surveys to evaluate the November NIDs campaign. CORE PVOs are represented on the national ICCs in Angola, Bangladesh, and Uganda, and participate in state-level ICCs in Bihar and Uttar Pradesh in India. The focus is on increasing AFP case detection and reporting, and assisting in district-level planning and training, monitoring and evaluation, social mobilization, and advocacy. The CORE NGOs supplement USAID funding with a matching contribution of 25 percent, bringing additional resources to the program.

- The "Checklist and Indicators for Optimizing the Impact of Polio Activities on EPI" is the first major tool to link EPI and polio. This joint effort by the Basic Support for Institutionalizing Child Survival (BASICS II) Project and WHO/Geneva was developed in response to a recommendation made at the December 1999 "Impact of Polio" meeting.

Strengthen Selected Systems

Strengthening health systems and boosting routine immunization through the Expanded Program on Immunization have been the central topics at recent regional ICC meetings. The Task Force on Immunization in Africa is reviewing integrated national budgets for routine immunization under the EPI, NIDs, and surveillance activities. Many countries are now giving increased attention to linking polio eradication to stronger EPI systems. USAID and its Polio Partners support cold chain system refurbishment and vaccine logistics and management. Investments in the laboratory network, integrated surveillance, and community involvement are needed to build high-quality systems to identify and respond to outbreaks of vaccine-preventable diseases and strengthen these key EPI activities. Through the Global Alliance for Vaccines and Immunization (GAVI) and the new USAID Boost Immunization Initiative, developing countries have additional resources for building EPI systems.

Under the U.S.-Japan Common Agenda, Japan has increased its support of cold chain equipment and vaccine procurement as part of its child health grants. USAID has assisted by sharing information on regional cold chain needs and discussing the need for ongoing cold chain maintenance and repairs.

WHO European Regional Office (WHO/EURO) conducted missions to Bosnia-Herzegovina and Georgia to assess cold chain and logistics support; these countries had applied for a GAVI grant. Nearly 1,000 field staff and clinicians were trained at 39 national and subnational workshops on PEI activities and AFP surveillance held in 11 of the independent states of the former Soviet Union.

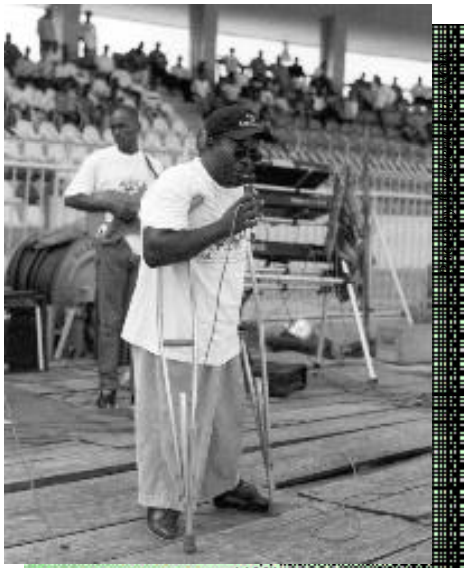
Strengthening systems is also part of the PEI communication strategy, which seeks to promote health issues and mobilize communities to participate in immunization and surveillance efforts. USAID and its partners are using state-of-the-art communication and behavior change techniques to improve the effectiveness of program activities. The Behavior Change Innovations (CHANGE) and BASICS II projects and VOA/IBB activities have greatly improved outreach, particularly to isolated communities. National-level data can mask local problems such as reaching the

"We are so grateful that VOA is lending its voice to polio eradication."

Dr. Frances Nkrumah,
Chairman,
Task Force on Immunization in Africa

"unreached" at the community level in the "silent" areas where children are routinely missed in immunization campaigns and AFP cases are not reported. This issue is becoming increasingly important, for, as the number of polio cases drops, the quality of planning for NIDs must improve or remain high. Microplanning (i.e., district/block-level planning for NIDs) and social mobilization begin with dedicated multisectoral, multidisciplinary teams of local officials, including magistrates, block leaders, civil associations, NGOs, and religious leaders, who work together in a democratic fashion to plan, monitor, and implement NIDs and to report AFP cases. Mobilization is targeted at those missed, and messages are tailored to the different audiences.

Many of PEI's communication activities involve VOA/IBB and the international Polio Partner organizations:



Polio survivor Pozo Hayes performs at NIDs event in Ghana

- VOA/IBB broadcasts have reached large segments of developing-country populations with polio immunization information. Fifty-two IBB reporters have traveled to 37 countries where polio is endemic. VOA/IBB English to Africa Service staff compiled a two-CD set of polio eradication and immunization public service announcements with African sports stars in English and French, which they distributed widely to radio programs.

- In the war-torn DR Congo, VOA/IBB coverage drew international attention to disruptions to the immunization effort caused by rebel activities. The rebels had cut electric power supplies, which threatened to spoil millions of doses of oral polio vaccine (OPV), and had grounded UN planes, which jeopardized OPV distribution. The attention created by VOA/IBB coverage was critical in getting power restored and the planes released in time for the scheduled NIDS.

- To increase knowledge of polio and the importance of immunizing children, the VOA/IBB Pashto and Dari language services aired several radio soap opera series on polio and other health issues in Peshawar, Pakistan. VOA/IBB's Urdu service began its first series of soap operas on polio in September.

- USAID supports the WHO polio eradication Web site (http://www.who.int/gpv-polio/) and the WHO newsletter "Polio News," which has a global distribution of 2,000. In the WHO regional offices, USAID supports the EURO Polio Page and weekly surveillance reports, South East Asia Regional Office AFP weekly report, the Indian AFP Alert, and Africa Regional Office monthly surveillance report.

- USAID supports UNICEF's semiannual Communications Partners meetings on PEI in New York to share lessons learned and information from polio eradication programs worldwide. In countries such as the DR Congo, these meetings have led to a strong emphasis on reaching the unreached. Responding to a recommendation at the July 2000 Communications Partners meeting, the BASICS II and CHANGE projects developed checklists and reference guides on

communication for polio and EPI. The tools were widely disseminated by WHO and UNICEF for the synchronized NIDs in West and Central Africa and for planning country communication activities. USAID supports UNICEF communication products that promote a greater involvement of youth and the media in polio eradication activities. A UNICEF annotated list of PEI and EPI materials is being reorganized and restructured by category, as recommended by the Polio Partners at the November 2000 meeting in Harare.

Support Supplemental Immunization

A record number of supplemental immunization activities was conducted in 2000, with 82 countries reporting NIDs, SNIDs, and mop-up campaigns. USAID participated on many international observation teams to monitor the quality and effectiveness of these activities. Recommendations are being incorporated into planning activities. Many countries have needed to move to a child-to-child approach to find missed children in silent areas such as slums, refugee camps, and high-rise apartment buildings; among nomadic groups; or otherwise outside the mainstream health arena.

USAID supports UNICEF's procurement of cold chain equipment, logistics support, and the communication activities of its global network of communication officers, including their advocacy and social mobilization efforts. These activities help ensure successful supplementary immunization activities, increase demand for immunization, and promote AFP surveillance. UNICEF vaccine purchase and delivery systems help distribute supplies and vaccines with staff in strategic areas to support health activities. UNICEF also provides country-level operational support for microplanning in decentralized health systems. UNICEF assessed national EPI services and polio eradication programs in many West and Central African countries to identify constraints and barriers and has developed plans to overcome these barriers in 2001.

Photo by Adanech Fessenaye/VOA

Children in Eritrea learn about the polio vaccine.

Photo by Ellyn Odgen/USAID

Rotary International provided the polio vaccination program in Luanda, Angola, with bicycles and cold boxes to transport vaccine and stool specimens.

Improve AFP Surveillance and Investigation

There has been great progress in improving AFP surveillance and laboratory investigation worldwide. The increasing number of reported AFP cases clearly indicates how much these systems have progressed (see figure 8). While this trend is encouraging, it should be noted that many polio cases are not reported, in part because they are difficult to detect. National statistics often mask local problems or do not provide complete data.

Surveillance improved significantly in Africa and South East Asia. The AFP surveillance model used in India, which assigns a surveillance officer for every two districts, is being promoted for use in Africa. Hundreds of surveillance officers—mostly African nationals—were hired last year and assisted by CDC-sponsored "Stop Transmission of Polio" (STOP) teams to improve surveillance.

To ensure that specimens from AFP cases undergo appropriate processing for viral isolation, WHO

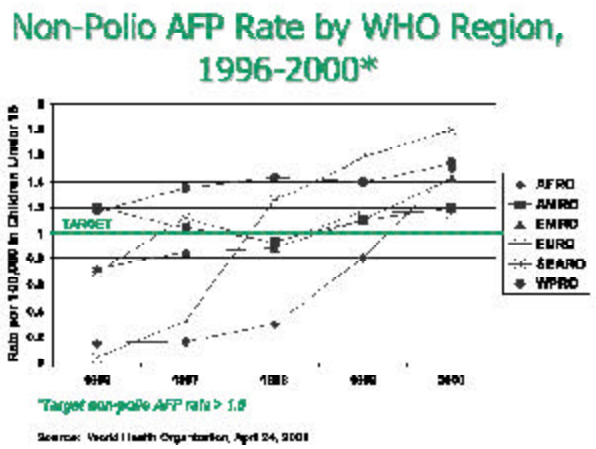


Figure 8

established the global LABNET. USAID is supporting LABNET's emphasis on quality principles, accreditation, and support of other global public health initiatives. At the end of 2000, this network was operational in all six WHO regions, with a total of 149 laboratories, including 126 national (or subnational) laboratories, 16 regional reference laboratories, and seven global specialized laboratories. Of the 149 laboratories, 128 are fully or provisionally accredited, and five are pending accreditation. The national and regional virology laboratories confirm the presence or absence of polio in specimens collected and provide supporting data needed for certification. Several laboratories are now capable of genetic sequencing, which helps pinpoint the exact origin of the virus, (i.e., indigenous or imported). To ensure that all specimens from AFP cases are processed in accredited laboratories, including specimens from countries without an accredited laboratory, specimens are divided, with half going to the national laboratory and the other half shipped in parallel to an accredited laboratory for back-up verification.

Maintaining and extending the quality of laboratory practice and performance emerged as last year's priorities. USAID support of the laboratory accreditation review visits was essential to maintaining the process.

LABNET addressed and resolved the long delays in laboratory results reporting, with the exception of laboratories in Nigeria and several other priority African countries. India showed exceptional progress in reporting. Through routine meetings of

The Global Alliance for Vaccines and Immunization (GAVI)

*Established in January 2000, the **Global Alliance for Vaccines and Immunization (GAVI)** is a major new initiative to facilitate polio eradication by improving routine immunization coverage. GAVI has representation from all the immunization partners and strong USAID support. Its objectives are to achieve a broader and revitalized Expanded Program on Immunization. The challenge is to ensure that WHO, UNICEF, and others—as GAVI partners—develop strategies that take full advantage of renewed international support for immunization to eradicate polio. A transition plan is being developed to strengthen linkages between the PEI, routine immunizations, and the introduction of new vaccines. More governments have come on board and pushed total commitments to more than $1 billion. GAVI has also developed a new vaccine procurement system that helps reduce vaccine costs by giving manufacturers long-term purchasing commitments.*

The GAVI partners' Global Fund for Children's Vaccines (www.vaccinealliance.org) is a new financial mechanism that swiftly channels resources to countries to strengthen health systems, using the GAVI Board's policies and recommendations. As of February 2001, the Fund had approved 30 applications for assistance from 21 countries totaling US$300 million; of the 21 countries, five will receive assistance in immunization services strengthening, seven in new vaccines, and nine under both. In the most recent round of applications, 13 countries submitted new applications and three countries resubmitted applications that had received conditional approvals. The Fund will help these countries pay for new and under-used vaccines and/or to improve their routine immunization services.

Photo by Ellyn Odgen/USAID

A technician at the WHO-certified polio laboratory in Johannesburg, South Africa.

laboratory directors at both regional and global levels, the network exchanged information, standardized techniques, and developed strategies to improve the information provided for eradication. Standard guidelines, procedures, cell lines, and reagents were established and implemented throughout the network. New staff training continued to counteract a high level of laboratory staff turnover. Twenty-three participants from national and subnational laboratories in Eastern Europe completed a training program in WHO standardized laboratory techniques and epidemiological technological skills.

The Quality Assurance Project's assessment of the WHO LABNET found that it used seven quality principles that contribute to its success. The assessment also identified the substantial financial costs involved in starting up and maintaining LABNET and presented lessons learned on logistics, operational budgets, communications, problem-solving, and leadership.

Despite the progress achieved in the network to date, substantial efforts will be necessary to absorb the increasing workload anticipated once countries reach the minimum level of AFP performance. Experience in Nigeria and India has demonstrated that laboratories need to be prepared to process huge numbers of additional specimens as activities improve. Laboratories in two polio-endemic countries (Bangladesh and Ethiopia) have not yet been accredited. It is important that they develop the virologic capacity to process specimens.

The CHANGE Project, in collaboration with the CORE Group, the U.S. Peace Corps, WHO's Africa Regional Office (WHO/AFRO), JOCV/JICA, and ministries of health, distributed its "Community Surveillance Kit" for field-testing in several African and South East Asian countries. The kit supports community involvement in surveillance and prevention of AFP/polio and other important diseases, including measles and neonatal tetanus. After the field tests and subsequent revisions, CHANGE will make the kit available for use worldwide. Each country will need to tailor the generic kit to in-country conditions.

Improve Information Collection and Use

USAID grants for WHO and UNICEF support monitoring and evaluation. Post-NID assessments, grab samples or convenience surveys (rapid, on-the-spot monitoring and evaluation methods), exit interviews, and other survey methods are being used to assess the effectiveness of NIDs. Surveillance reports provide timely data for program managers and donors. VOA/IBB funding is being used for investigative and social communication programming on polio issues.

LABNET's Seven Quality Principles

- Leadership commitment
- Utilization of quality assurance
- Functioning accreditation program
- Ongoing capacity building
- Network-wide communication plan
- Documentation standards
- Responsible allocation of resources

Working closely with UNICEF and WHO, several USAID-funded projects are developing and disseminating PEI tools and checklists, conducting operations research, and evaluating communications approaches to better reach every eligible child. Increasingly, social mobilization specialists and epidemiologists are collaborating to improve the effectiveness of immunization efforts.

USAID's Global Bureau supports a range of activities that have a major impact on the global and regional programs. These activities include research, communications, regular reports, provision of cell lines and reagents to laboratories, and support to communities, primarily through PVOs. For example:

- Three USAID-funded projects—BASICS II, CHANGE, and Johns Hopkins University-Population Communications Services (JHU-PCS)—collaborated with WHO/AFRO, WHO/Geneva, UNICEF, USAID, and ministries of health in the DR Congo, Mali, Mozambique, Nigeria, and Zambia on country assessments that identified PEI program "best practices" and constraints. Their findings, presented in the June 2000 report "Communication for Routine Immunization and Polio Eradication: A Synopsis of Five Sub-Saharan Country Case Studies,"are being used to improve planning and guide regional and national initiatives for polio and routine immunization information, education, and communication activities.

- The Population, Health and Nutrition Information (PHNI) Project serves as the PEI Secretariat. It documents and disseminates lessons learned, maintains the polio and photography archives, and collaborates with USAID to produce annual reports to Congress.

- The Applied Research for Child Health (ARCH) Project developed policy recommendations based on its study of missed opportunities for polio immunizations in urban, low-income communities in West Africa and identified how to make social mobilization more effective.

- To assist with social mobilization, the BASICS II and CHANGE projects developed and disseminated 15 PEI checklists and reference guides. Each guide can be used independently or in combination with other guides.

- The Global Health Council produced the April 12, 2000, event at the Franklin Delano Roosevelt Memorial in Washington, D.C., to mark Roosevelt's birthday and the release of the USAID's Polio Eradication Initiative 1999 Report to Congress.

- JHU is conducting research in Brazil, Ethiopia, Guatemala, Mexico, and Pakistan on the extent and length of time of poliovirus shedding in children with immune-compromised disorders. Research continues to show that shedding appears to be a rare event, even in children with recurrent or multiple infections. Even as a rare event, however, this finding has significant implications for how, when, and if the world can stop immunizing.

- The MEASURE Project is analyzing the utility and reliability/validity of grab samples, lessons from surveillance, and routine reporting versus other types of surveys for the PEI.

- The PHR Project completed a study on PEI's impact on financing of routine immunization activities in three countries and a cost-effectiveness analysis of the mix of operational approaches to PEI in Cambodia and Turkey. PHR is working on a study of PEI's impact on donor financing and a cost analysis of phasing in injectable polio vaccine (IPV) as a post-eradication option.

- The MEDS Project is supporting an external review of PEI. A final report is expected in mid-2001.

- U.S. Pharmacopeia produced the monograph "Poliomyelitis, OPV, and Misconceptions on Vaccinations." It is available in English, French, and Russian online at www.usp.org and in print. It was distributed to the Polio Partners and the American Academy of Pediatrics.

Polio Monograph Acclaimed by Duke Hospital Pediatrician

The U. S. Pharmacopeia monograph "Poliomyelitis, OPV, and Misconceptions on Vaccinations" received special praise in December from Dr. Samuel L. Katz of Duke Children's Hospital and Health Center in Durham, North Carolina. In a letter, Dr. Katz congratulated the authors "on a truly excellent document. In particular, the discussion of cultural influences, misinformation and misconceptions is extremely valuable for those working in the field as well as for those developing policy." Dr. Katz is Wilburt C. Davison Professor and Chairman Emeritus of Pediatric Health Policy and Infectious Diseases at the Center.

Africa Shows Strong Progress

Accelerated efforts to achieve polio eradication in Africa are showing clear progress. NIDs were successfully conducted in 32 countries with a total target population of about 130 million children less than five years of age. Performance exceeded expectations in terms of the number of rounds, quality of NIDs, reductions in reported AFP cases, and strengthening of the surveillance/laboratory network.

AFP surveillance increased dramatically and the non-polio AFP rate nearly doubled in the region. Improved AFP surveillance resulted from increased funding, initiation of provincial-level active surveillance, CDC-sponsored STOP team support in several countries, recruitment of additional epidemiologists to help West and Central African countries improve AFP surveillance, and better transport for surveillance workers. All countries in the region now have access to an accredited laboratory.

No wild poliovirus was detected last year in Southern or Eastern Africa. While improvements are bringing the disease to very low levels, all systems are not yet in place to interrupt virus transmission. Several countries have stopped NIDs, prematurely in USAID's estimation, leaving them at risk of re-importation of the poliovirus. Supplementary immunization activities were conducted in Southern Africa (Botswana, Lesotho, Namibia, and South Africa). None of the campaigns, however, achieved the recommended minimum coverage of 90 percent, in contrast to the campaigns of the 1990s. The number of reported AFP cases rose throughout the Southern region of Africa, but five countries—Botswana, Lesotho, Madagascar, Mozambique, and Namibia—had very low performance indicators. Raising the case detection rate will be the major AFP surveillance challenge for Madagascar next year. Mozambique had a less than adequate proportion of AFP cases with timely stool collection.

Strategic Actions

The Polio Partners took many corrective actions to improve the quality of NIDs and accelerate implementation in the region. As a result of the Global Technical Consultative Group's recommendations, WHO and UNICEF led an ambitious campaign to conduct synchronized NIDs in 17 countries in October and November. The campaign attempted to reach every child through house-to-house immunization with significant attention paid to hard-to-reach populations and cross-border activities. More technical and financial aid was provided to polio-endemic countries at the subnational level. Political commitment was stronger than ever, with seven presidents participating in launching ceremonies.

The Partners also made provisions to ensure that there were adequate OPV supplies for all countries and that the vaccine arrived at least three to four weeks prior to NIDs. A deliberate decision was made to ensure that all OPV used had vaccine vial monitors. There were some OPV shortfalls because of poor distribution in some countries, which led to the extension of NIDs in some districts. Several countries used more realistic estimates of the target population based on prior NIDs data. The ICCs developed better cost estimates for NIDs.

Quick disbursement of funds to countries facilitated the early procurement of cold chain equipment,

communications and logistic materials, and additional administrative support. WHO/AFRO also provided funds for transport vehicles to aid in better and faster distribution of supplies, especially in areas with poor roads and in conflict areas. In addition, over 150 international and 320 national consultants—logisticians, epidemiologists, social mobilization agents, and administrative staff—were hired to provide increased technical assistance to countries conducting NIDs. The consultants arrived in country two to three months before the first round of NIDs and assisted with preparing detailed microplans, arranging logistics for the distribution of vaccines and other supplies, and evaluating the NIDs after each round.

The house-to-house immunization strategy focused on mapping in teams to ensure better coverage; tallying to collect information on zero-dose children and ensure their houses were revisited and children immunized; marking children with a temporary gentian violet dye stain on their left thumbnail and their houses with chalk to show they have been immunized; and improving supervision with checklists, grab surveys, and reliable transport.

USAID Project Involvement

The BASICS II Project, in conjunction with WHO and UNICEF, conducted case studies to document lessons learned and provide recommendations for communication, advocacy, and social mobilization efforts for polio eradication in the DR Congo and Nigeria. They also field-tested the "Communication Handbook for Polio Eradication and Routine EPI" in immunization workshops and communication strategy development meetings in the DR Congo and Ghana. UNICEF published the handbook in December.

In Nigeria, the DR Congo, and Senegal, BASICS II staff provided advocacy, technical guidance, and planning support to national counterparts in planning NIDs, including incorporation of vitamin A supplementation. In the DR Congo, this included technical support to partners in rebel-held areas. In Nigeria, tools and indicators that BASICS I had developed for monitoring and evaluating the quality of NIDs were introduced to the national EPI and selected local health authorities. Using their PEI experience, BASICS II staff supported WHO/Geneva, WHO/AFRO, and the Communication Consultative Group in designing and revising their communication, social mobilization, and advocacy components for routine immunization. The CHANGE Project is also working with partners on strategies and planning activities.

USAID 2000 funding for WHO/AFRO, UNICEF, and the BASICS II and CHANGE projects was used to strengthen partnerships, immunization systems, the cold chain process, logistics, and surveillance systems; provide technical assistance in planning, training, and provision of supplemental immunization; improve social mobilization and information collection; and provide program support in 23 countries. (See Table 2 in the Annex for more information.)

Focus on Reservoir and War-Torn Countries

The number of countries where intense wild poliovirus was found dropped to 11 in 2000, from 17 in 1999. Intense wild poliovirus was isolated in Angola and in Central and West Africa. There was also a significant decrease in the intensity of the wild poliovirus transmission in the African region, which has led to a strong reduction in the total population of children living in districts at risk for polio. However, remaining polio reservoirs are a threat to neighboring polio-free countries.

Wars, civil unrest, and political instability continued during the NIDs in some areas and prevented AFP surveillance in some parts of Angola, the DR

Supervisors in Nigeria evaluate vaccination coverage from NIDs data.

These children in Luanda, Angola, are at risk of polio infection because poor sanitation makes the area a haven for the poliovirus.

Congo, and Sierra Leone. This year the unrest again took a deadly turn, when several vaccinators were shot and one was killed in the DR Congo. There were logistical problems in gaining access to immunize children in rebel-controlled areas of Angola, Congo Brazzaville, the DR Congo, Liberia, Nigeria, and Sierra Leone. There was reduced access due to extensive flooding in some areas, difficult terrains in Ethiopia and riverine areas, and poor road infrastructure in several countries. Late arrival of funds and inadequate NIDs funding were problems in some countries. Rumors and misconceptions about OPV resulted in reduced NIDs turnout in some places.

DR Congo Faces Formidable Challenges

With poliovirus transmission in the DR Congo continuing and a threat to progress in neighboring countries, a more aggressive strategy to accelerate and intensify the quality and coverage of NIDs is needed. Working with local staff in the DR Congo in September, USAID staff observed NIDs preparation and implementation in high-risk areas; met with partner organizations to discuss progress and challenges; monitored WHO and UNICEF grant implementation; explored further coordination with NGOs; and made recommendations for program improvement. The U.S. government team in Kinshasa was very supportive. The team participated in the NIDs and kick-off ceremonies, accompanied the Minister of Health and others on site visits during NIDs, and are involved in the ICC.

In partnership with the ICC, and with help from WHO and UNICEF, BASICS II staff helped the Ministry of Health revise NIDs and routine EPI microplanning documents. They provided staff training and assisted with developing and implementing social mobilization materials and activities, reporting and data management, immunization, and field supervision and monitoring during NIDs.

NIDs Continue in DR Congo

NIDS in the DR Congo in July and August 2000 reached approximately 10.7 million children, despite limited access to several health zones. Along major rivers, immunizations were given from boats. NGO planes in the east and commercial planes elsewhere were used to transport funds, vaccines, and supplies between provincial headquarters. National and international radio stations, including VOA/IBB, broadcast NIDS information in French and Swahili. Churches also helped in social mobilization. While the lack of effective communication capability hindered or delayed movements of personnel, equipment, and supplies (and is expected to delay AFP case reporting), social mobilization went very well. The program used radio, miking, and megaphones extensively; these are proving to be the most effective means of informing people. Efforts to engage community and other local leaders also went well. WHO and UNICEF's rapid, aggressive denunciation of negative vaccine rumors was very effective.

USAID staff found, however, that the Polio Partners had greatly underestimated and under-budgeted the operational challenges, especially given the DR Congo's size, poverty, and infrastructure problems; its continuing conflicts and inability to control rebel areas; and its populations of refugees and displaced people. Extra rounds of NIDs, many more staff and volunteers, better transport, and a more flexible operational strategy are needed. Barriers to access fall into three categories: areas of insecurity and conflict; areas difficult to reach; and displaced people. Many people are accessible only by boats, small airplanes, or by several days' trek through the forest. Neutral parties are needed to locate displaced transient people. Strategies are needed to react to opportunities to reach inaccessible families. Year-round planning for polio is recommended.

Photo by Ellyn Odgen/USAID

A team of volunteer vaccinators prepares for the day's NIDs activities in Benguela, Angola.

Angola: Zero-Dose Children Must Be Reached

With up to one-third of Angola under rebel control, no immunizations have been given in many years, and millions of zero-dose children need to be immunized. UNITA, the leading rebel force, has not participated in Days of Tranquility and has not been open to negotiations. There have been no assurances of safety for vaccinators who want to enter rebel-controlled areas. This is of particular concern to USAID, as the country has been a focus of transmission and exported the wild poliovirus to other African countries. While the government in Luanda is committed to the program, the quality of activities needs to be improved in accessible areas and be more innovative in reaching children in inaccessible areas.

In a July 2000 review of the second round of NIDs in Angola, a team of USAID, UNICEF, and WHO staff and local medical directors found remarkable progress in the quality of polio eradication activities in Luanda, compared with 1999. Grab samples in slum areas showed 90 percent coverage. There was solid political commitment for the NIDs from provincial civil and health authorities, the First Lady of Angola, and local health officials. Due to improved microplanning, better estimates of the number of children to be immunized were available, which allowed the recruitment of sufficient personnel to saturate the city in a child-to-child approach. In Lobito, the review team found that better planning, training, logistics, supervision, and social mobilization are needed to interrupt poliovirus transmission. The team helped draft a Memorandum of Understanding on Polio Eradication between the Government of Angola and the Polio Partners to solidify commitment.

Both polio outbreaks reported in the Africa region last year were traced to Angola. The first was reported from Sibiti in Congo Brazzaville with 33 cases and no deaths. The second, in Cape Verde, was more serious with 33 cases and 7 deaths, and vividly showed that even in island nations geography is not a barrier to polio transmission. Both outbreaks were caused by type 1 wild poliovirus, which was circulating because of an accumulation of susceptible children and a lack of supplemental immunization activi-

USAID Negotiates Days of Tranquility for NIDs in DR Congo

In September, Days of Tranquility in the DR Congo were negotiated with the help of the UN Secretary-General Kofi Annan, leading to the suspension of hostilities in rebel-held areas. USAID staff, leading a team of UNICEF and WHO logisticians, secured safe passage for vaccinators, obtained security assurances for NIDs fuel and equipment, and discouraged looting. The negotiations stressed that all children in the Congo need to be vaccinated multiple times if the program is to succeed and that high-quality AFP surveillance must be established for the country and region to be certified polio-free. It was recommended that continuing requests be made to the UN Secretary-General for additional Days of Tranquility and that the military be informed to enlist their cooperation.

Photo courtesy of Ellyn Odgen/USAID

USAID PEI Coordinator Ellyn Ogden and rebel leaders in Gbadolite, DR Congo, during negotiations for Days of Tranquility to allow NIDs to be held.

ties in those areas. Results from the Johannesburg Regional Reference Laboratory confirmed the isolation of wild poliovirus in both countries. WHO responded by conducting two rounds of NIDs for children aged less than five years in both places; the age range will be increased to include all children aged less than 15 years in the second NIDs round in Cape Verde, since a large percentage of the cases were older children.

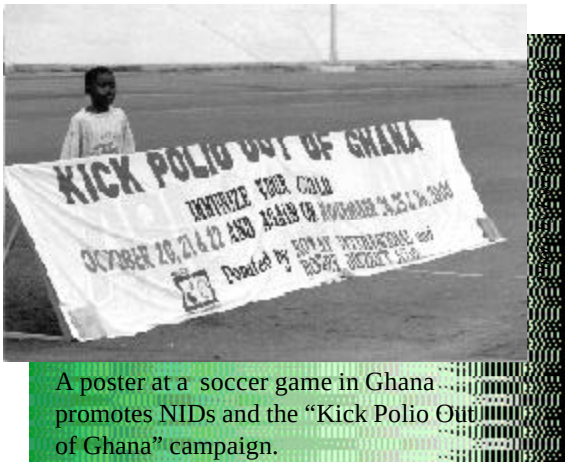
USAID/Ghana Identifies Areas for Improvement

USAID/Ghana has been an active player in polio eradication. The Mission recently suggested several ways to improve the program:

- Link strategic planning to available funding and hold financial management to higher standards of accountability
- Enforce stricter accountability of NIDs funding and improve management to raise standards throughout Ghana's health system
- Strengthen the technical planning and review process by using a technical advisory committee
- Recommend that WHO/AFRO provide the ICC with guidance on technical issues
- During NIDs, seize the opportunity to convey additional health messages such as the importance of routine immunization

USAID/Kenya Promotes Effective Use of Funds

USAID/Kenya plays an active role on the country's ICC. Through this venue, it has lent its voice to PEI implementation issues in partnership with other donors and provided financial resources to UNICEF to strengthen polio surveillance. USAID/Kenya has provided USAID/Washington with comments on proposals to fund WHO/AFRO regional polio activities. The Mission supported other donors to help Kenya apply for supplemental immunization funds through GAVI. An effective surveillance system is needed for the Kenya EPI to improve polio surveillance.



A poster at a soccer game in Ghana promotes NIDs and the "Kick Polio Out of Ghana" campaign.

A key issue that affected Kenya's polio campaign was the Catholic Church's 1999 claim that polio vaccine was laced with chemicals that might be harmful to children. By working with other donors and the Ministry of Health to counter this claim, a meeting was set up with the Catholic bishops that resolved the differences.

USAID/Madagascar Continues Its Support

Through a three-year grant to WHO/AFRO, USAID/Madagascar has played a leading role by funding NIDs from 1997 to 1999. The executing agencies—BASICS, John Snow International (JSI), and NGOs—were key partners in assisting the Ministry of Health in all aspects of the NIDs. USAID is a prominent member of the EPI ICC, which steered the NIDs effort, and participated in the NID Steering Committee and subcommittees with the BASICS and JSI technical advisors. The ICC brought together all the major EPI partners in Madagascar. The NIDs rekindled enthusiasm within the ICC and made it a more effective operating body.

Surveillance remains weak, however, and less than 25 percent of AFP cases are reported (although all are being investigated). USAID's bilateral JSI project is working on media outlets to support polio surveillance and supporting EPI in two of the country's six regions. If more funding becomes available, USAID hopes to support improving EPI performance and surveillance in all six regions. The mission recently assisted in injection security research through JSI to help with the introduction of auto-disable syringes under GAVI funding.

Mali Shows Strong Political Commitment

In Mali, the former president, General Amadou Toumani Touré, leads the polio eradication effort with a steering committee composed of leaders from the public and private sectors, NGOs, military, associations, and donors. USAID/Mali has an active role on the committee and is viewed by the government as its main partner. USAID provides technical assistance through BASICS II, which is currently working with the National Immunization Center on routine immunization, and also channels funding through UNICEF and WHO/AFRO. Social mobilization, microplanning, training, and monitoring activities are funded through a UNICEF grant. The WHO/AFRO grant supports technical assistance. USAID bilateral funding enabled PVOs to support the 2000 Polio Eradication Program. USAID gave direct funding to the Ministry of Health's regional services for social mobilization. The Mission suggested having more comprehensive funding information so it can accurately inform the Ministry of Health on USAID polio eradication funding, because USAID funds are channeled through UNICEF and WHO.

Routine Immunizations Decline in Uganda

USAID/Uganda reported that while NIDs had very high coverage rates from 1996 to 1999, there has been a downward trend in routine immunization coverage since 1995. As of 1998/99, OPV coverage was 54 percent. As a result, USAID/Uganda identified several challenges for the PEI to improve routine immunization coverage:

- Use the NIDs' new and very effective innovations, experiences, and resources to strengthen routine immunization.

- Revitalize EPI. The BASICS II project was contracted to help the EPI and Ministry of Health revitalize immunization services as part of the main EPI revitalization plan. Through this plan, USAID will be able to contribute significantly to reviving the routine immunization program.

- Improve coordination among donors and local players. Improved interagency coordination is needed to maximize results and coordinate the immunization team players on USAID-funded child survival projects.

- Make PEI a national priority within the Health Sector Strategic Plan and Sector Wide Approach.

- Revive and strengthen the routine immunization program without relying on supplemental immunizations.

Presidential Support in Nigeria

Nigeria participated in the synchronized NIDs in September and October and recruited surveillance officers to improve AFP surveillance. President Olusegun Obasanjo made a strong political commitment to polio eradication and improving quality and outreach. BASICS II, an ICC member, supported microplanning and NIDs implementation, helped revise the field guide for house-to-house immunization, and provided training to facilitators.

The Nigeria ICC Social Mobilization Committee organized a rapid-response team to counter rumors about OPV in the North and Kano states. The rumors had led ulamas (local religious leaders) to organize a press conference calling on people to boycott NIDs and remove NGOs and other organizations. After the team met with the National Council of Ulamas and the emir and executive governor of Kano State to address their concerns, the ulamas reversed their position and gave full support to the NIDs. The emir agreed to kick off the third round of NIDs at his palace and immunize his children in front of the international media. The governor thanked the NGOs for helping the people of Kano State.

Photo by WHO/Rotary International

President Olusegun Obasanjo of Nigeria joins the African Regional PolioPlus committee.

"The wild poliovirus respects no boundaries; we shall continue to utilize the benefits of synchronization with our neighbors to ensure no area is left uncovered."

Nigerian President Olusegun Obasanjo
October 2000

Regional Commission Looks to Move Ahead

At its September 2000 meeting, the African Regional Polio Certification Commission reviewed the status of PEI implementation in the region and made key recommendations. These included developing timelines to finalize certification documentation and guidelines; requesting that member countries set up national certification commissions (NCCs); and setting a timeline for progress reports. Advocacy issues were also discussed. Given the 2000 polio outbreak in Cape Verde, it was decided that each small island country should nominate two people to collect data nationally, one for the Atlantic Ocean islands and one for the Indian Ocean islands, with support from consultants. The information will be presented to the Commission as a separate "block." It was requested that WHO/AFRO ensure that coordination with WHO's Eastern Mediterranean Regional Office (WHO/EMRO) is reinforced in the notification of confirmed polio cases in border districts and importations, information exchange, coordination of NIDs, cross-border outbreak investigation and response, and polio-free certification.

Photo by Ellyn Odgen/USAID

A religious leader in Addis Ababa, Ethiopia, gives OPV drops to a child.

Asia and Near East Make Dramatic Progress

While Afghanistan, India, and Pakistan continue to be major poliovirus reservoirs in Asia, the situation is improving. India saw a 75 percent drop in reported polio cases—the largest one-year decline in a country in the Initiative's history. India broke its global record for immunizations with a series of NIDs that reached 152 million children in December. At the end of 2000, virus circulation was limited mostly to India's two northern states of Bihar and Uttar Pradesh. Rotary International's PolioPlus Program is a key player in India.

Improvements in surveillance continued in WHO's South East Asia and Eastern Mediterranean regions. Negotiated ceasefires paved the way for two rounds of NIDs in Afghanistan, where 5.3 million children under five were targeted. The number of confirmed cases of wild poliovirus in the South East Asia Region decreased from 1,161 in 1999 to 272 in 2000, with 265 in India alone. There were 261 confirmed cases of wild poliovirus in the Eastern Mediterranean Region, with 173 in Pakistan. There was only one confirmed wild poliovirus case in Bangladesh and none in Indonesia last year. Three polio cases in Nepal were viruses imported from India. The number of confirmed wild poliovirus cases should decline further in the region in 2001, reflecting a decrease in the incidence of poliovirus as a result of NIDs and other supplementary immunization activities. Given the fact that the South East Asia Region represents over 25 percent of the world's population, and that India is the world's largest polio-endemic country, continued and enhanced progress toward polio eradication in the region is crucial.

Intensified NIDs and improved surveillance and case reporting in India were the main reasons for advances in the region. USAID funds supported the hiring of more than 200 surveillance medical officers in Bangladesh, India, Indonesia, and Nepal, where they are having a significant impact. The quality of sample collection also improved dramatically. A regional network of 16 WHO-accredited laboratories is conducting poliovirus isolation and AFP classification.

The staff at this fixed immunization site in Bangaldesh prepares for NIDs.

In a major policy shift to accelerate polio eradication activities, the number of NIDs rounds was increased in reservoir and other priority countries. Myanmar, Bangladesh, and India conducted several rounds of NIDs in 2000. India conducted two additional subnational rounds in February and March in eight high-risk states in the north that include 70 percent of its population. More than 10 million zero-dose children were reached through house-to-house visits in India. Nepal conducted three rounds of SNIDs and two rounds of NIDs in December 2000 and January 2001. To interrupt cross-border poliovirus transmission, coordinated NIDs/SNIDs will continue between countries, particularly along borders, with improved surveillance along border areas. Myanmar, where imported wild poliovirus caused an outbreak, conducted its sixth annual NIDS in late 2000 and early 2001, followed by mop-up activities. After fixed-site immunizations on day one, day two of the NIDS included house-to-house rounds.

In the Eastern Mediterranean Region, there were 454 laboratory-confirmed cases of polio in 2000, including the 261 cases of wild poliovirus. Polio transmission—while declining—continues to be intense in Pakistan. The USAID Worldwide Polio Eradication Coordinator traveled to Pakistan in February to advocate for stronger political commitment from the government. She emphasized the need for stronger surveillance, high-quality NIDs, improved routine EPI rates, and the inclusion of women on vaccination teams. Because of the continuing exportation of polioviruses from Afghanistan into neighboring countries, Afghanistan, Iran, and Pakistan conducted coordinated, cross-border immunization activities. Imported wild poliovirus from Pakistan caused an outbreak in Iran. Although it has begun to receive preliminary reports from the more advanced countries in the region, WHO/EMRO emphasized the need to achieve rapid progress in the remaining endemic countries.

USAID 2000 grants to WHO, UNICEF, and INCLEN were used to strengthen partnerships, planning, surveillance, laboratory, and immunization systems; conduct NIDs and mop-up campaigns; provide training; improve social mobilization and information collection; and provide country-specific program support in Bangladesh, India, and Nepal. USAID gave funds to WHO/EMRO and for social mobilization. (See Table 2 in the Annex for more information.)

House-to-House, Child-to-Child Strategy Increases Immunizations in India and Nepal

The house-to-house, child-to-child immunization strategy that was used extensively in 2000 revealed that many countries had significantly underestimated the number of children to be immunized. In Bihar State in India, for example, all districts reported a 10 to 30 percent increase in 2000 in the number of children vaccinated over 1999 since adopting the house-to-house strategy. In Birgenj, Nepal, the increase was from 10 to 20 percent between 1999 and 2000, and actual coverage from prior rounds was used to revise 2000 targets. Recalculating upwards the number of children to be immunized has an immediate impact on vaccine projections, the number of mobile teams and other resources needed, and the number of years that NIDs/SNIDs will be needed.

India's Pulse Polio Program Moves Ahead

India made great strides in its polio program—from earning accreditation for several of its laboratories, to improving surveillance, coordination, and NIDs planning, to intensifying supplemental immunization activities and conducting responsive mop-up campaigns. As a result, a number of polio-free zones emerged, and the quality of surveillance and laboratory reporting improved. The number of reported polio cases dropped.

With CORE as an active participant, many more PVOs and NGOs participated in the polio program, and record numbers of zero-dose children were immunized. With CORE and its partners, the Pulse Polio search campaign in Bihar State immunized more than 360 zero-dose children and close to 2,000 children who had received only a partial dosage. Several NGO partners immunized close to 3,000 zero-dose children in late 2000. In Calcutta's unreached and undeserved urban wards, the Women's Interlink Foundation (a local partner of CORE member Project Concern International) found close to 1,000 zero-dose children through a survey. Working in very resistant communities—where people had very little faith in immunization—and using house-to-house, intensive supplemental immunization, the person-to-person approach enabled vaccinators to convince parents to immunize their children.

Indonesia Maintains Excellence, Targets Conflict Areas

After three years of successful NIDs, Indonesia continues to show high routine vaccination coverage and topnotch AFP surveillance, case investigations, and laboratory performance. The last wild poliovirus was isolated in Indonesia in June 1995. These indicators and the nation's continued high OPV coverage provide strong evidence that Indonesia is polio-free. Nonetheless, USAID in 2000 supported SNIDs in four conflict areas, where the surveillance system had virtually broken down and routine immunization had been interrupted. The U.S. ambassador has been a strong supporter of polio eradication, and USAID received a plaque from the Minister of Health recognizing the Agency's contribution. The government set up a task force in each of the four regions for SNIDs implementation. The country must remain vigilant in a difficult political and economic environment.

A child performs in a drama to promote NIDs during social mobilization activities in Bangladesh.

Bangladesh Makes Huge Strides

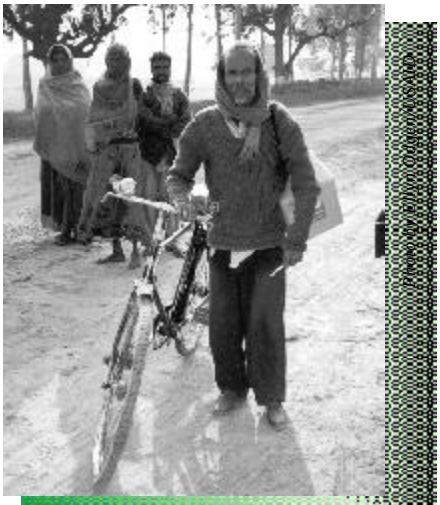
Bangladesh has made tremendous strides toward the global goal of interrupting transmission of poliovirus. The estimated number of polio cases in Bangladesh decreased from 2,300 reported cases in 1994 to only one clinically confirmed case of wild poliovirus in 2000. This dramatic decrease in the number of cases is due largely to the annual NIDs held from 1995 through 2000. A local bilateral child survival project supported by USAID hired 100 surveil-

These children in Nepal are getting their index fingers marked with gentian violet dye to indicate they have received OPV.

lance medical officers to enhance the work of WHO surveillance officers. The officers focused on urban and high-risk areas and helped improve the depth and quality of coverage. In addition, extra rounds of NIDs, house-to-house and child-to-child immunizations, and mop-up activities in high-risk areas were conducted. USAID funds were used to partially support mopping-up activities and, with contributions from other partners, laboratory activities, and surveillance medical officers. A USAID-funded project is conducting a small study to develop a comprehensive profile of zero-dose children.

NIDs Target Zero-Dose Children in Pakistan

More than 2.8 million children were administered polio drops during a campaign launched in Pakistan in April. Instead of inviting parents to bring their children to camps, 4,700 EPI teams were assigned to visit every home in the North West Frontier Province to administer the drops. A formal ceremony to launch the three-day campaign was organized at Gara Tajak village near Peshawar. Governor Mohammad Shafiq was the chief guest at the ceremony, which was attended by all the provincial cabinet members. At the launch, the governor pledged all possible facilities and measures to protect children from polio and urged parents to participate. The provincial health minister also appealed to the people to cooperate with the EPI teams. USAID invoked "notwithstanding" language in order to provide assistance to the program's polio eradication activities.



A vaccinator maintains the cold chain in India by transporting OPV in a cooler.

European Region on Track for Certification

The European Region, where the last polio case occurred in Turkey in November 1998, is targeted for certification within the year. The WHO European Regional Office drafted a regional plan for the certification process that included laboratory containment issues. The European Regional Certification Commission began reviewing preliminary reports from its member states in anticipation of certifying that the region is free of polio. Routine immunization coverage is quite high in most of the USAID/Europe and Eurasia region (encompassing WHO's European and Eastern Mediterranean regions). No polio cases were reported last year. Improvements were noted in the non-polio AFP surveillance indicators for most recently endemic countries. Surveillance is approaching the standards necessary for certification. In addition, 30 of the 37 candidate laboratories in WHO's European Region attained full accreditation in 2000.

"Operation MECACAR Plus" conducted coordinated NIDs in selected high-risk countries in spring 2000 and mop-up campaigns in high-risk areas in autumn 2000. This campaign follows the successful "Operation MECACAR," an innovative public health campaign that linked as many as 18 bordering nations and areas from the Middle East, the Caucasus, and the Central Asia Republics in synchronized polio immunizations. The final report on Operation MECACAR (1995-2000) highlighted the campaign's excellent results. These included immunizing millions of children, developing effective AFP surveillance and the free exchange of data, and establishing a network of accredited laboratories that provides reliable diagnostic support. USAID supports the European laboratories of the MECACAR laboratory network and the MECACAR ICC.

Western Pacific Region Certified Polio-Free

In October 2000, health officials declared the 37 countries of the Western Pacific Region polio-free, making it only the second region, after the Americas, to eradicate the disease. Because of its proximity to polio-endemic countries such as India, the region must conduct vigilant monitoring and surveillance to maintain its polio-free status. Possible contaminated laboratory specimens are being inventoried, destroyed, and consolidated per the WHO Containment Plan. No PEI funds are provided to this region.

Outbreak in Latin America/ Caribbean Raises Concern

Although the LAC region was certified in 1994 as having eradicated polio, outbreaks in the Dominican Republic (11 vaccine-derived cases) and Haiti (one vaccine-derived case) raised serious concerns. With USAID support, the Pan American Health Organization (PAHO) immediately sent 16 epidemiologists to support the health ministries in initiating extensive AFP surveillance and mass vaccination campaigns in both countries. Laboratory testing showed that the poliovirus was vaccine-derived and had either been replicated for a prolonged period in an individual with a compromised immune system or had circulated for as long as two years in an area of low immunization coverage. The outbreak occurred among individuals who were either unvaccinated or had not completed all doses of OPV. This is the second documented outbreak caused by a vaccine-derived poliovirus (the first being Egypt in the 1980s).

The outbreak was a clear lesson in the importance of keeping vaccination coverage high until global polio eradication goals are met. It reaffirmed the need to maintain high population immunity to prevent such outbreaks and high-quality AFP surveillance to allow early detection and response. Governments must ensure that poliovirus vaccine strains are eventually subject to biocontainment. The outbreak also raises questions about the strategies for stopping polio immunizations. Additional research is planned to determine the value of moving from oral vaccine to injectable vaccine and how to stop immunizing without the risk of reintroducing polio due to prolonged shedding or vaccine-derived mutations.

USAID provided limited funding to PAHO in 2000. These funds were used to monitor the status of AFP surveillance to help the region keep its polio-free status, support the polio laboratory network, and maintain or increase OPV coverage rates. USAID's funds are directed to regional priorities, laboratories, supplies, and surveillance. Decreases in AFP surveillance quality are being monitored closely. Maintaining high-quality surveillance is key to retaining certification status. Heightened AFP surveillance will be needed until the time of global certification and beyond.

III. Challenges in 2001

USAID is working with its Polio Partners to accelerate the progress achieved to date. More work is needed to boost routine immunization rates, improve surveillance, and establish a fully accredited laboratory network. Immunizing children in war-torn and conflict areas is a serious challenge that requires a more flexible, decentralized approach, so that staff and community volunteers with transport and resources can monitor the security situation and take advantage of opportunities to administer OPV. Children in polio reservoir countries must be immunized to keep the virus from recirculating in silent areas and populations and from entering neighboring countries. Communities must be mobilized and take action to support both routine and supplemental immunization efforts. The challenges continue.

Reaching the "Unreached"

In 2001, the worldwide fight to eradicate polio continues its focus on supplemental immunization. Greater innovation and ingenuity are needed, including specifics on how to "reach the unreached." The unreached include zero-dose children, very young infants, unregistered families, illegal immigrants, and elite populations. Equally important is the need to vaccinate children in polio-endemic countries by entering each house or home and going child-to-child to administer the vaccine. The use of local guides, extended vaccination hours, better social mobilization, and greater collaboration with local, political, and religious leaders will help achieve higher coverage results. Also, barriers to immunization must be identified and overcome. Innovations and solutions should be incorporated into microplanning for NIDs/SNIDs/mopping-up activities from the outset. The Agency will continue to work with its Polio Partners to ensure that the organizations participating in the Initiative improve their planning techniques and build stronger public-private partnerships and better community-level communication plans.

In 2001, targeted efforts will seek to improve subnational technical and administrative capacity. To reach deep into communities, teams of local officials (such as magistrates, imams and other religious leaders, civil organizations, and community/block leaders) are needed to plan, monitor, and implement supplemental immunization activities and rally their communities to support polio immunization. Social mobilization messages need to be targeted to those missed. Grab samples will continue as an easy method for estimating how successful NIDs are in reaching target populations. PEI checklists for vaccinators and supervisors will be adapted to local situations.

To reach the unreached, OPV must be produced in sufficient quantity and quality so that there are no vaccine shortages. To ensure the 2000 global supply, UNICEF made US $100 million available to guarantee purchase of the total OPV amount offered in a global tender. WHO, UNICEF, and manufacturers further streamlined information exchange and strengthened vaccine forecasting, planning, and coordination among UN agencies, vaccine manufacturers, and donor governments.

In 2001, OPV costs are expected to increase by 25 percent, which will dramatically increase eradication costs and pose a challenge to fund raising. Reducing vaccine wastage, managing vaccine supply, ruptures in the cold chain, and ongoing problems with delivery dates and potentially insufficient total supply need to be addressed. WHO and UNICEF will need to work more closely with vaccine manu-

Photo by Ellyn Odgen/USAID

Supervisors in Nigeria travel by boat to remote villages to monitor house-to-house vaccinations.

facturers to monitor production. While OPV forecasting has been good, this skill needs to be transferred to other vaccine forecasting.

Accelerating Surveillance

USAID is focusing on community- and facility-based surveillance, difficulties in terrain and communication, the reverse cold chain (to transport stool samples), and funding. Many countries, especially in Africa, have recently hired and trained surveillance officers who now need to establish effective systems and timely stool collection. They need to target children who do not attend health clinics. Surveillance officers need to identify cases of paralysis within 14 days of onset and get data back on a timely basis to the field. This is a major challenge in countries where many areas are inaccessible.

Making communities aware of the need to report new cases of paralysis is a critical part of the program. CORE is providing some extra support to families with paralyzed children in order to encourage community reporting. This process is being monitored for its possible use on a broader scale.

Improving Routine Immunization Rates

The international community has noted the alarming declines in routine immunization rates (particularly in Africa, even as successful rounds of NIDs are conducted) and rallied to address this issue. The USAID Boost Immunization Initiative is aimed at increasing Agency funding for immunization and planning enhanced vaccination programs in as many countries as possible. In FY 2000, USAID reversed flat or declining funding and increased its allocations for immunization programs by about $9 million. As a result, USAID Missions in 14 countries (11 in Africa, 2 in Latin America, and Cambodia in Asia) have received support for new or enhanced immunization programs, which are projected to reach close to 15 million children. The Boost Initiative and GAVI are two new programs targeted at developing countries' health infrastructure and EPI programs. Through GAVI, USAID is working with its partners to find ways to further support and strengthen systems and boost routine immunization coverage. These efforts have been accelerating in the past year.

USAID is stressing to local partners the importance of promoting health messages on routine immunization and AFP case reporting during NIDs and through social mobilization. ICCs are expanding their scope to coordinate support to strengthen the routine immunization system.

Working in War-Torn and Conflict Areas

Wars and civil unrest destroy health systems and infrastructure, resulting in declines in routine immunization coverage and creating fertile ground for disease transmission. The success of the UN Secretary-General and other partners in establishing Days of Tranquility for NIDs in 1999 and 2000 in the DR Congo demonstrated again the feasibility of working successfully in conflict-affected areas. These efforts must be expanded and draw on the strengths of the UN Secretary-General, UN agencies, and other partners to promote peace and support logistics operations during cessations of hostilities, particularly in Afghanistan, Angola, the DR Congo, Sierra Leone, Somalia, and Sudan.

The extreme challenges of accessibility in conflict areas are only now being strategically addressed with attention to operational issues. WHO, UNICEF, and Rotary have brokered cease-fires and truces in several countries in conflict to allow polio immunizations to be conducted. These efforts must continue.

Photo by Ellyn Odgen/USAID

This vaccinator/social mobilizer was shot in a crossfire during the September 2000 NIDs in Bilundu, DR Congo.

In Angola, for example, there is a high degree of certainty that the poliovirus remains in circulation, despite the recent NIDs.

Immunization activities in the DR Congo need to be modified to fit the accessibility level of each area (accessible, intermittently accessible, or inaccessible). In all areas, it is difficult to estimate the target population because of the number and movements of displaced peoples. In accessible areas, more can be done to improve quality and reach more children. Intermittently accessible and inaccessible areas require better involvement of NGOs and local leaders to raise the quality of microplanning and logistics and to move vaccine, other supplies, and people through a weak cold chain and areas with no infrastructure.

For the most part, donor organizations are designed to work from a centralized location. In the DR Congo, this structure does not work and a more decentralized, subregional approach is needed to take advantage of areas that become temporarily accessible. In addition, the lack of trained local staff is a serious impediment to a well-functioning program.

Many of the most difficult countries to reach are countries where there are no USAID-supported polio eradication activities, such as Afghanistan, Myanmar, Somalia, and Sudan. USAID and its Polio Partners are exploring alternatives to support polio eradication in these and other critical areas where the virus continues to circulate. These include working with local NGOs and other local partners.

Sustainability

To strengthen routine immunization systems, surveillance, and the laboratory network, ICCs need to review more closely tools such as checklists and guides, build skills, and strengthen linkages developed by implementing partners. This strategic approach needs to be implemented to lead to more sustainable national health systems. USAID and WHO are working to develop a "transition" plan that will provide guidance and objectives to accelerate this approach. Once polio is eradicated, this could ultimately be an important long-term legacy of the polio eradication effort.

Containment and Ceasing Immunization

The final step in the polio eradication process is containment of all hospital, laboratory, and medical sources of poliovirus. This is a very complex and expensive task, especially in developed countries. The Western Pacific Region is taking preliminary steps toward containment as part of the certification process.

After certification of eradication and a period of surveillance vigilance, child immunization is hoped to finally end. Global immunity against polio will gradually decline and finally cease. At this stage, a chance reintroduction of wild poliovirus into the community from a laboratory could have devastating effects of global proportions. For this reason, containment efforts begin in the pre-eradication phase, with the identification and inventory of all poliovirus sources and institution of biosafety level 2 procedures. During the post-eradication phase (one year after the last virus is reported), biosafety level 3 procedures would be instituted and viruses may be transferred to central locations or rendered "noninfectious." In the post-polio immunization period, biosafety level 4 procedures are put into place.

Stopping immunization has become a more controversial issue. The polio outbreaks in 2000 in the Dominican Republic and Haiti served as a "wake-up call" that the vaccine virus could mutate back to virulence by circulating among populations with low immunity. It is not yet clear how large a problem this is in developed countries, nor how rare it is or how likely it is to happen again. USAID-funded research into persistent shedders and people with B-cell deficiencies who shed may clarify the situation. The answers to these questions will guide the Polio Partners' decisions on how and when to stop immunizing.

Injectable vaccine is being examined as an interim measure, but it has several drawbacks. As it is injectable, only trained people can use it and disposal is an issue. It is also more expensive than OPV, and manufacturing capacity is limited.

Political and Financial Commitment

Political and financial commitment remains weak or inconsistent in a number of recently endemic or polio-reservoir countries. Countries need to budget and be prepared for outbreaks, support the acceleration of high-quality eradication activities, and establish multisectoral support. Maintaining high levels and increasing low levels of routine immunization coverage and surveillance are ongoing goals. The wild poliovirus can easily be transmitted back into areas with low immunization levels.

With many competing priorities, some countries are reluctant to continue to support supplemental immunization activities for more than three years. In addition, keeping countries focused on certification—in addition to completing three years of NIDs—is proving to be a greater challenge than expected. Some countries, particularly in Africa, have stopped NIDs, despite surveillance sensitivity that remains well below certification standards. Experience in other regions has conclusively demonstrated that such actions may jeopardize progress because low-level polio transmission can continue undetected for more than three years in areas with sub-optimal surveillance. As long as poliovirus transmission continues, so does the risk of re-infecting polio-free areas. Although most countries have borne a significant percentage of polio eradication costs, virtually all the supplementary costs need to be financed by external sources, especially in the poorest countries. New partners, such as the Bill and Melinda Gates Foundation, continue to join the effort, but funding levels from current Polio Partners have seen little increase.

USAID and its partners are advocating for increased local resources, personnel, and commitment, both government and private. Funding gaps remain. WHO conservatively estimates that an additional $400 million is needed to cover the shortfall costs of country-level eradication activities through 2005, and global and regional needs involving certification will further widen the gap. Delays in achieving the target date will increase eradication's total cost by a minimum of US$100 million per year.

The success achieved to date establishes the technical feasibility of interrupting wild poliovirus transmission. Despite some obstacles, it now appears that most chains of transmission will have been interrupted by 2002, if current levels of participation are maintained or, in some cases, accelerated. Surveillance continues to lag in Africa, and most regions do not expect to be certified polio-free before 2003. WHO estimates that 2005 is the earliest that global certification can be achieved. Containment of laboratory stocks of poliovirus, vaccine-derived outbreaks, and other factors will determine when and how to recommend that immunization ceases.

Benefits to All

The challenges of polio eradication are significant, but the benefits are many. Polio eradication will eliminate the disease and wipe out the wild poliovirus forever. It will prevent the social and cultural ostracism experienced in the past by crippled children and their families from occurring in future generations. When global certification is achieved and immunization no longer needed, WHO estimates that the global savings could equal $1.5 billion per year. Most of the savings will accrue to industrialized countries. The United States will save an estimated $230 million per year in vaccine costs alone.

Annexes

Checklist and Indicators for Optimizing the Impact of Polio Activities on EPI

Table 1: USAID Polio Eradication Initiative - FY 2000 Budget by Results

Table 2: USAID Polio Eradication Initiative - Summary Budget FY 2000

Table 3a: USAID Polio Eradication Initiative - Africa Region Funding FY 2000

Table 3b: USAID Polio Eradication Initiative - Asia/Near East Region Funding FY 2000

Table 3c: USAID Polio Eradication Initiative - Europe and Eurasia Region Funding FY 2000

Table 3d: USAID Polio Eradication Initiative - USAID Funding for Global Activities FY 2000

Checklist and Indicators for optimising the impact of polio activities on EPI

We have learned[1]:

- Positive impacts of polio eradication (PE) do not occur automatically, rather they have to be deliberately pursued; and
- Most negative impacts of polio eradication can be avoided through better planning

The checklist and indicators below have been developed to help national decision-makers and programme managers to maximize the positive impact of PE on routine immunization services.

Checklist

▼Polio eradication activity	▼Actions to strengthen routine immunization
1. Advocacy: Sustained political and financial commitment is necessary at all levels.	◆ **Combine efforts:** Explain to decision-makers that PE depends on strong routine immunization services. State the importance and needs of routine immunization in all PE advocacy opportunities. ◆ **Compare performance:** When reporting NID coverage, compare with DPT3 and measles (e.g. publish tables comparing district coverage). ◆ **Troubleshoot:** Use high-visibility of NIDs to solve administrative and technical bottlenecks around routine immunization (i.e. slow release of funds, staffing).
2. Partner coordination: PE relies on coordinated partners to ensure sufficient resources.	◆ **Think bigger:** Ensure that Inter-Agency Coordinating Committee (ICC) meets throughout the year. Ensure mandate of ICC includes routine immunization.
3. Information, education, communication (IEC): Nationwide multi-sectoral awareness is critical for PE.	◆ **Generate demand:** Include messages in NID training, material or media events about other EPI vaccines and the need for children to be fully immunized.
4. Social mobilization: Active participation of the community is needed to achieve PE.	◆ **Maintain involvement:** Use the organizations, leaders, media and people mobilized for PE to support the delivery of routine immunization services in all areas.
5. Planning: Comprehensive strategic and annual micro-planning is necessary for PE to reach every child with OPV.	◆ **Share plans early:** To avoid disruptions to other health services, share planned NID dates widely with all health programmes. ◆ **Double up:** Use PE micro-planning and training to improve planning of routine immunization services (e.g. frequency, sites, etc). ◆ **Use data:** Use NID target population data for routine immunization if these are more accurate than official data.

[1] *Meeting on the impact of targeted programmes on health systems: a case study of the Polio Eradication Initiative: WHO, Geneva, 16-17 December 1998; WHO/V&B/00.29*

▾ Polio eradication activity	▾ Actions to strengthen routine immunization
6. Cold chain/logistics: PE requires effective logistics and cold chain to ensure safe and potent administration of OPV with minimum wastage.	◆ **Protect the investment:** Ask NID partners to invest in cold chain that meets EPI standards, and to support the preventive maintenance, spare parts and training to keep it functioning for routine immunization. ◆ **Waste not, want not:** Apply good NID vaccine practices to reinforce/teach stock management for routine vaccines (e.g. adjust OPV requirements and re-distribute stock after NIDs). ◆ **Exploit technology:** Provide training on the use of VVMs as a management tool for routine immunization services.
7. Service delivery & supervision: PE needs to provide high quality services (OPV) at point of delivery in NIDs and during routine immunization.	◆ **Build capacity:** Use PE training opportunities to refresh routine immunization skills and knowledge. ◆ **Work together:** Combine surveillance and routine supervisory visits.
8. Surveillance: High-performing, timely AFP surveillance is essential to achieve PE.	◆ **Get integrated:** Gradually include other priority diseases with AFP surveillance and reporting.
9. Injection safety: PE offers opportunities to promote safe injection practices.	◆ **Play it safe:** Ensure that NID activities that include injectable vaccines have a detailed plan of action to ensure safe injection and waste disposal at all levels. Establish safe practices/systems for routine immunization.
10. Monitoring: Achievement of the PE goal requires careful monitoring.	◆ **Track impact on system:** Make a commitment to "achieve PE in ways that strengthen routine immunization systems." Use indicators to monitor the impact of PE on strengthening routine immunization (see below). Analyse and use collected information to take corrective action, and report progress periodically.

Nine key indicators

1. **Trends in routine immunization coverage:** Monitor and analyse annual DTP3 and measles coverage by district over time.
2. **Trends in financial resources:** Trend analysis of annual financing (external and national) of routine immunization services (if possible compare to overall health sector budget/expenditures).
3. **Surveillance:** The number of other diseases integrated with "active" AFP surveillance activities.
4. **Cold chain improvement:** The percentage of district cold stores with full complement of functioning equipment and systems for maintenance.
5. **Integration of other services:** In countries with vitamin A deficiency, delivery of vitamin A is integrated with routine immunization services.
6. **Information, education, and communication:** Existence of PE communication and social mobilization plan that provides for both polio eradication, routine immunization and surveillance.
7. **Vaccine logistics:** Inclusion of vaccine vial monitor (VVM) training for PE campaign activities.
8. **Partner coordination:** Inter-Agency Coordinating Committee (ICC) mandate and membership has mandate an[d] membership for all EPI activities at least.
9. **Human resource development:** Systematic use of the experience of PE mic[ro] planning to improve the delivery of routine health services.

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Table 1: USAID Polio Eradication Initiative - FY 2000 Budget By Results ($000's)

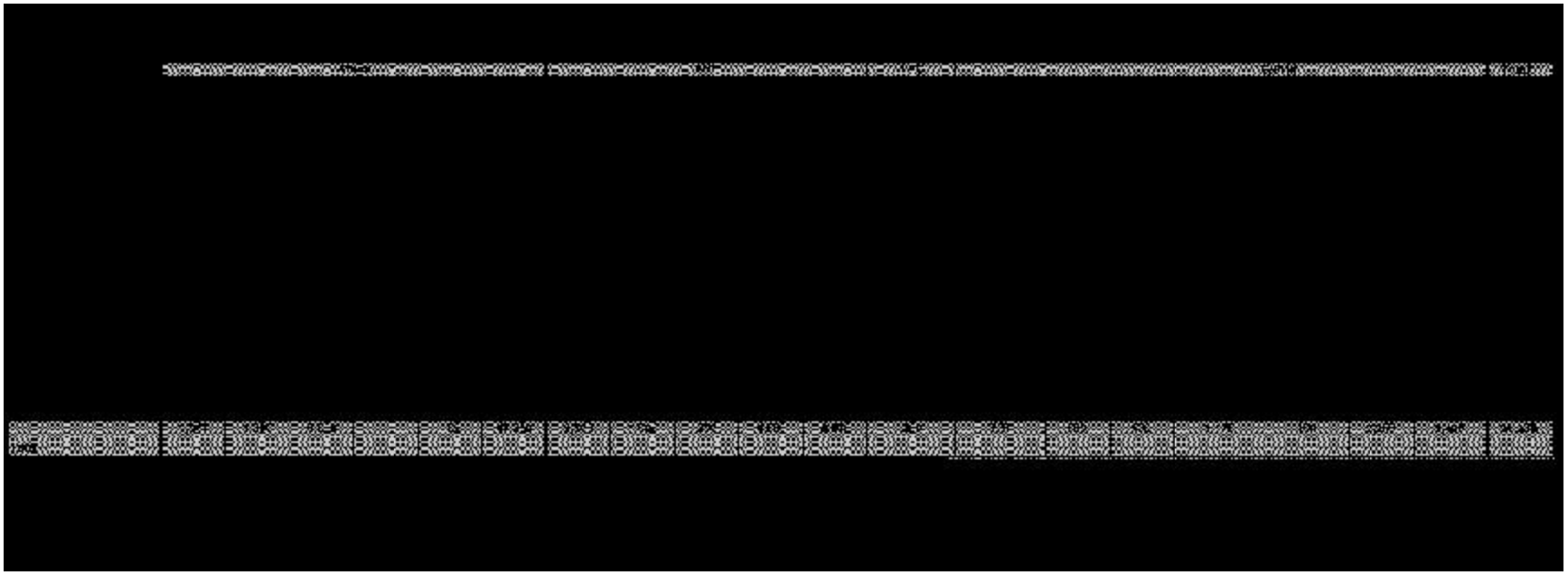

Table 2: USAID Polio Eradication Initiative - Summary Budget FY 2000

By Region and Major Partners	FY 00 PEI Funds	Additional FY 00 Bilateral Funds[1]	Total FY 00 Funds
Africa			
WHO/AFRO	9,901,250	0	9,901,250
UNICEF	4,528,750	1,339,250	5,868,000
BASICS	1,300,000	0	1,300,000
TAACS	0	0	0
CHANGE	170,000	0	170,000
OTHER	0	0	0
Subtotal	**15,900,000**	**1,339,250**	**17,239,250**
Asia & Near East			
WHO/India	2,800,000	0	2,800,000
WHO/Nepal	0	0	0
UNICEF/ India	1,000,000	0	1,000,000
UNICEF/Nepal	0	0	0
INCLEN/India	200,000	0	200,000
WHO/SEARO	0	0	0
G/PHN Projects	0	0	0
OTHER [2]	0	4,500,000	4,500,000
Subtotal	**4,000,000**	**4,500,000**	**8,500,000**
ENI			
BASICS	0	0	0
Subtotal	**0**	**0**	**0**
Latin America/Carribean			
WHO/PAHO	200,000	0	200,000
OTHER	0	0	0
Subtotal	**200,000**	**0**	**200,000**
Global / PHN			
WHO / SEARO	500,000	0	500,000
WHO / Bangladesh	200,000	0	200,000
WHO / Indonesia	100,000	500,000	600,000
WHO / Nepal	275,000	0	275,000
WHO / Pakistan	100,000	0	100,000
WHO / EURO	600,000	0	600,000
WHO/EMRO	100,000	0	100,000
WHO / HQ	775,000	0	775,000
G/PHN Projects	2,250,000	0	2,250,000
Subtotal	**4,900,000**	**500,000**	**5,400,000**
Total	**25,000,000**	**6,339,250**	**31,339,250**

FY 00 Bilateral Funding:

[1] UN CEF: $1,327,250 DR Congo; $12,000 Ghana

[2] Other includes: $1,500,000 Egypt; $3,000,000 IOCH Bangladesh

Table 3a: USAID Polio Eradication Initiative - Africa Region Funding FY 2000 (US$)

Table 3b: USAID Polio Eradication Initiative - Asia/Near East Region Funding FY 2000 (US$)

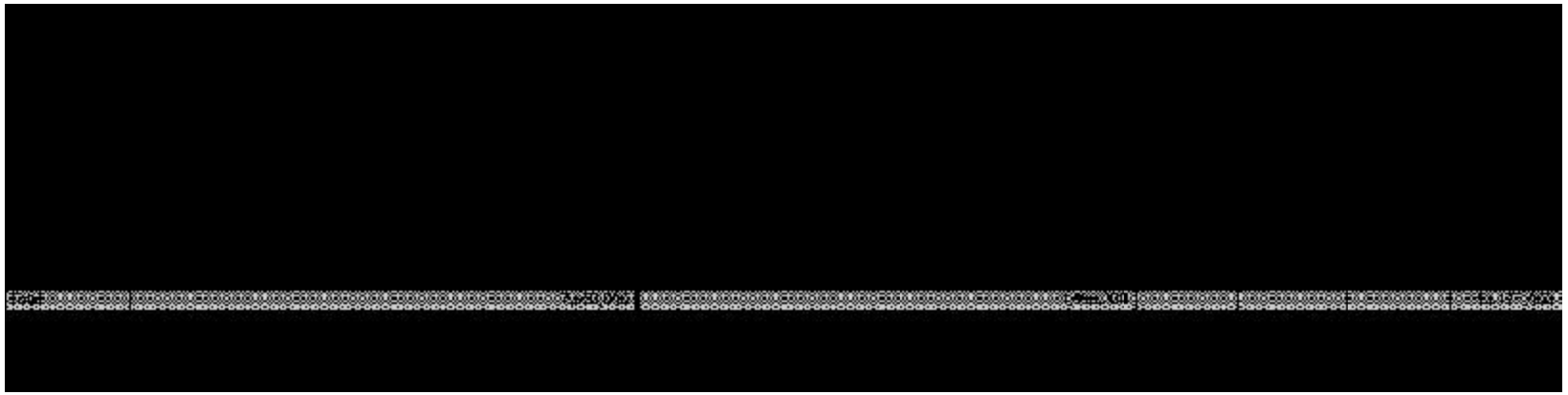

Table 3c: USAID Polio Eradication Initiative - Europe & Eurasia Region Funding FY 2000

Table 3d: USAID Polio Eradication Initiative - Global Activities FY 2000